

CODE ANALYSIS

APPLICABLE CODES			
	Year		Year
International Building Code	2006	National Electrical Code	2005
International Mechanical Code	2006	Uniform Code for	
International Plumbing Code	2006	Building Conservation	
International Fire Code	2006	ADA Accessibility	
International Energy		Guidelines	
Conservation Code	2006		

A. Occupancy and Group: EXISTING MAINTENANCE FACILITY

Change in Use: Yes No X Mixed Occupancy: Yes No
Special Use and Occupancy (e.g. High Rise, Covered Mall):

B. Seismic Design Category: Design Wind Speed: mph

C. Type of Construction (circle one):

 I I II II III III IV V V
 A B A B A B HT A B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: South: East: West:

E. Mixed Occupancies: Nonseparated Uses:

F. Sprinklers:

Required: Provided: Type of Sprinkler System:

G. Number of Stories: Building Height:

H. Actual Area per Floor (square feet):

I. Tabular Area:

J. Area Modifications:

a) $A_a = A_t + \left[\frac{A_t I_t}{100} \right] + \left[\frac{A_t I_s}{100} \right]$ $I_t = 100 \left[\frac{F}{P} - 0.25 \right] \frac{W}{30}$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$$

c) Total Allowable Area for:

- 1) One Story:
2) Two Story: $A_a(2)$
3) Three Story: $A_a(3)$

d) Unlimited Area Building: Yes No Code Section:

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls			Floors - Ceiling Floors		
Interior Bearing Walls			Roofs - Ceiling Roofs		
Exterior Non-Bearing Walls			Exterior Doors and Windows		
Structural Frame			Shaft Enclosures		
Partitions - Permanent			Fire Walls		
Fire Barriers			Fire Partitions		
			Smoke Partitions		

L. Design Occupant Load:

Exit Width Required: Exit Width Provided:

M. Minimum Number of Required Plumbing Facilities:

- a) Water Closets - Required (m) (f) Provided (m) (f)
b) Lavatories - Required (m) (f) Provided (m) (f)
c) Bath Tubs or Showers:
d) Drinking Fountains: Service Sinks:

FOOTNOTES:

- 1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
- 2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
- a) High Rise Requirements.
b) Atriums.
c) Performance Based Criteria.
d) Means or Egress Analysis.
e) Fire Assembly Locator Sheet.
f) Exterior and Interior Accessibility Route.
g) Fire Stopping, Including Tested Design Number.

* PROJECT SCOPE IS TO REPLACE EXISTING RADIANT TUBE HEATERS. THERE ARE NO OTHER CHANGES TO BUILDING, USAGE, ETC.

UTAH DEPARTMENT OF TRANSPORTATION
RAMPTON MTF - RADIANT HEATING SYSTEM
REPLACEMENT
DFCM #08212900



State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT

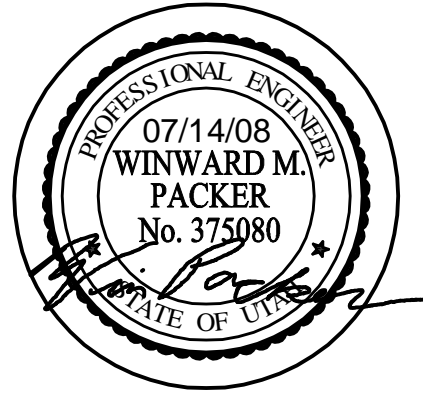
4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

DRAWING INDEX:

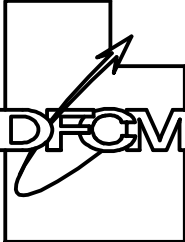
M000 - TITLE SHEET
MG001- MECHANICAL GENERAL NOTES AND LEGEND
MD101- AREA "A" MECHANICAL DEMOLITION PLAN
MD102- AREA "B" MECHANICAL DEMOLITION PLAN
MD103- AREA "C" MECHANICAL DEMOLITION PLAN
MD104- AREA "D" MECHANICAL DEMOLITION PLAN
MD105- AREA "E" MECHANICAL DEMOLITION PLAN
ME101- AREA "A" MECHANICAL PLAN
ME102- AREA "B" MECHANICAL PLAN
ME103- AREA "C" MECHANICAL PLAN
ME104- AREA "D" MECHANICAL PLAN
ME105- AREA "E" MECHANICAL PLAN
ME501- MECHANICAL DETAILS
ME601- MECHANICAL SCHEDULES



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PIPING LEGEND

MEANING	SYMBOL OR ABBREVIATION	MEANING	SYMBOL OR ABBREVIATION
HOT WATER LINE	— — — — —	WALL CLEANOUT	WCO
COLD WATER LINE	— — — — —	CLEANOUT	CO
RECIRCULATING HOT WATER LINE	— — — — —	CLEANOUT TO GRADE	COTG
HIGH TEMPERATURE HOT WATER LINE	— — — — — 180° — — — — —	FLOOR CLEANOUT	FCO
VENT LINE	— — — — —	BALL VALVE	⊘
WASTE LINE	— — — — —	UNION	— — —
GAS LINE	— — — — — G — — — — —	POINT OF REMOVAL	⊙
VENT THRU ROOF	VTR		
CONNECTION TO EXISTING PIPING	⊙	CONDENSATE DRAIN	— — — — — CD — — — — —

MECHANICAL LEGEND

SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION
GENERAL TERMINOLOGY			WET SIDE CONT		
		SECTION LETTER DESIGNATION			PITCH DOWN
		SECTION DRAWN ON THIS SHEET			ELBOW UP
		DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION			ELBOW DOWN
		MECHANICAL EQUIPMENT DESIGNATION			TEE UP
		EQUIPMENT ITEM DESIGNATION			TEE DOWN
		REGISTER, GRILL OR DIFFUSER DESIGNATION WITH BALANCING CFM LISTED BELOW			EXISTING PIPING TO REMAIN
		GRILLE, OR LOUVER DESIGNATION WHERE BALANCING NOT REQUIRE			NEW PIPING
		REVISION DESIGNATOR AND NUMBER			PIPE CAP OR PLUG
		KEY NOTE DESIGNATOR AND NUMBER			CONCENTRIC REDUCER
	POC	POINT OF CONNECTION			ECCENTRIC REDUCER
	POR	POINT OF REMOVAL			EXPANSION JOINT
AFF		ABOVE FINISHED FLOOR			FLEXIBLE CONNECTION
AP		ACCESS PANEL			ANCHOR POINT
CL		CENTER LINE ELEVATION			CONDENSATE DRAIN
INV. ELEV.		INVERT ELEVATION			NATURAL GAS PIPING
GC		GENERAL CONTRACTOR		CW	CULINARY COLD WATER
MC		MECHANICAL CONTRACTOR		HW	CULINARY HOT WATER
ATC		CONTROL CONTRACTOR			RECIRCULATED CULINARY HOT WATER
EC		ELECTRICAL CONTRACTOR			PRESSURE REGULATING VALVE
FPC		FIRE PROTECTION CONTROL			
NIC		NOT IN CONTRACT			
NTS		NOT TO SCALE			
VCP		VITRIFIED CLAY PIPE			
C		COMMON			
NC		NORMALLY CLOSED			
NO		NORMALLY OPEN			

GENERAL NOTES:

G-1 MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS BY OTHER DISCIPLINES AND SPECIFICATIONS.

A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.

B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

G-2 ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CHANGES FOR APPROVAL. CONTRACTOR SHALL NOT START ANY CHANGES UNTIL NOTIFIED IN WRITING. IF CHANGES ARE MADE PRIOR TO APPROVAL CONTRACTOR SHALL TAKE ALL RESPONSIBILITY FOR THE CHANGES MADE AND ALL COSTS RELATING TO FAILURE OR REPLACEMENT OF ALTERATIONS.

G-3 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.

G-4 THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE OR COORDINATE WITH THE GENERAL CONTRACTOR PROVISIONS FOR BLOCKOUTS OR CORE DRILLS THROUGH STRUCTURE.

G-5 THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.

G-6 THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANTS, OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.

G-7 THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING BEFORE ORDERING MOTORIZED EQUIPMENT AND CONTROLS.

G-8 SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

G-9 CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.

G-10 ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.

G-11 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE DRAINING DOWN AND RE-FILLING OF ALL SYSTEMS NECESSARY TO COMPLETE THE WORK OUTLINED BY THIS PROJECT. THIS INCLUDES PROVIDING THE REQUIRED CHEMICAL TREATMENT WHEN RE-FILLING THE SYSTEM.

G-12 ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE UNLESS SPECIFICALLY AUTHORIZED IN WRITING PRIOR TO BID.

PROJECT NAME & ADDRESS

**UDOT
RAMPTON MTF-
RADIANT HEATING
SYSTEM
REPLACEMENT**

DFCM #08212900

SLC, 84118

MARK	DATE	REVISION

PROJECT MANAGER:

WP

DRAWN BY:

STAFF

CHECKED BY:

WP

DATE:

07/14/08

WHW JOB NO.:

08032

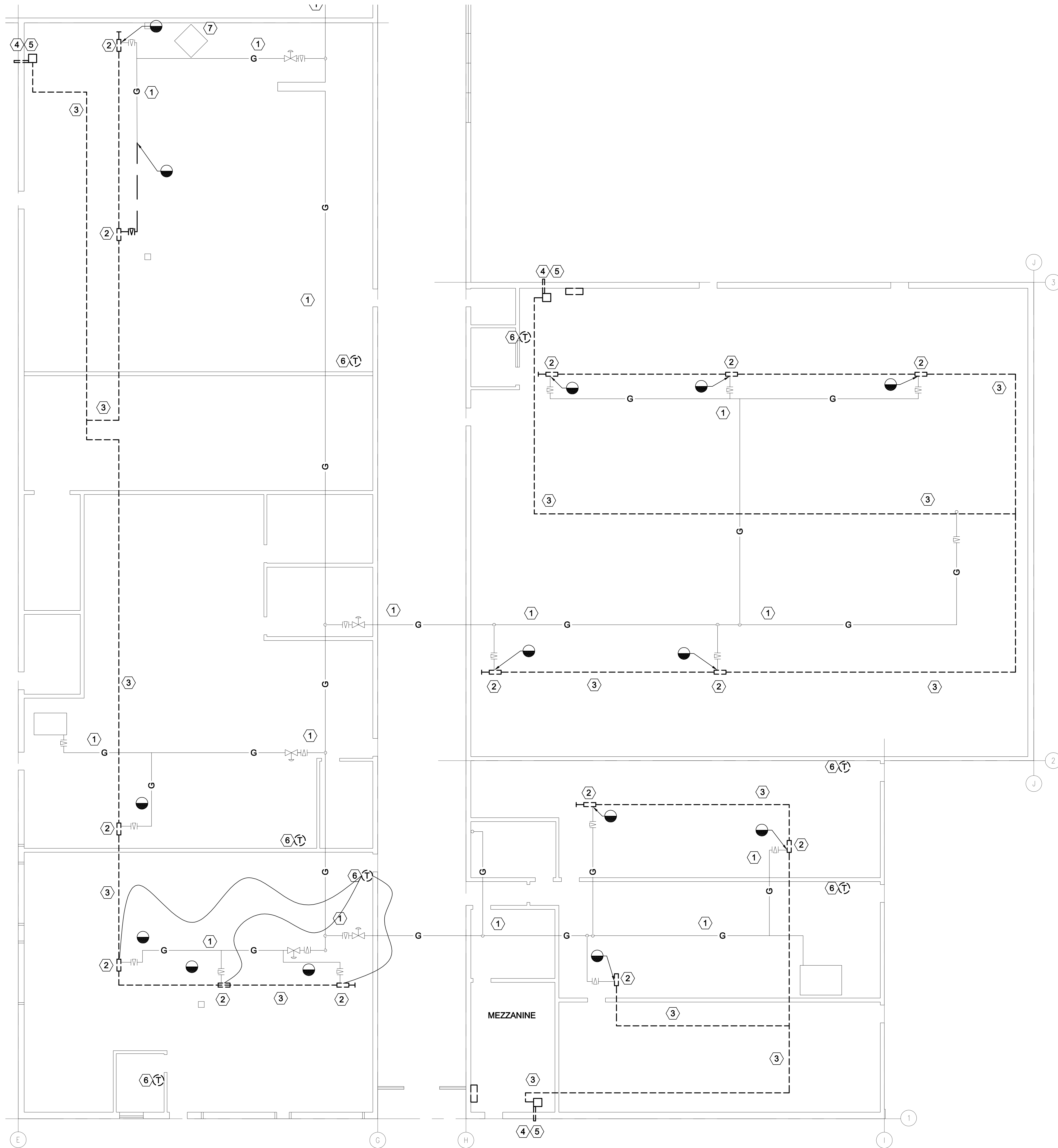
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**MECHANICAL GENERAL
NOTES AND LEGEND**

SHEET NO.

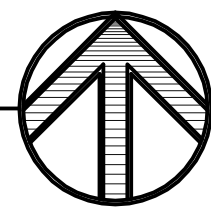
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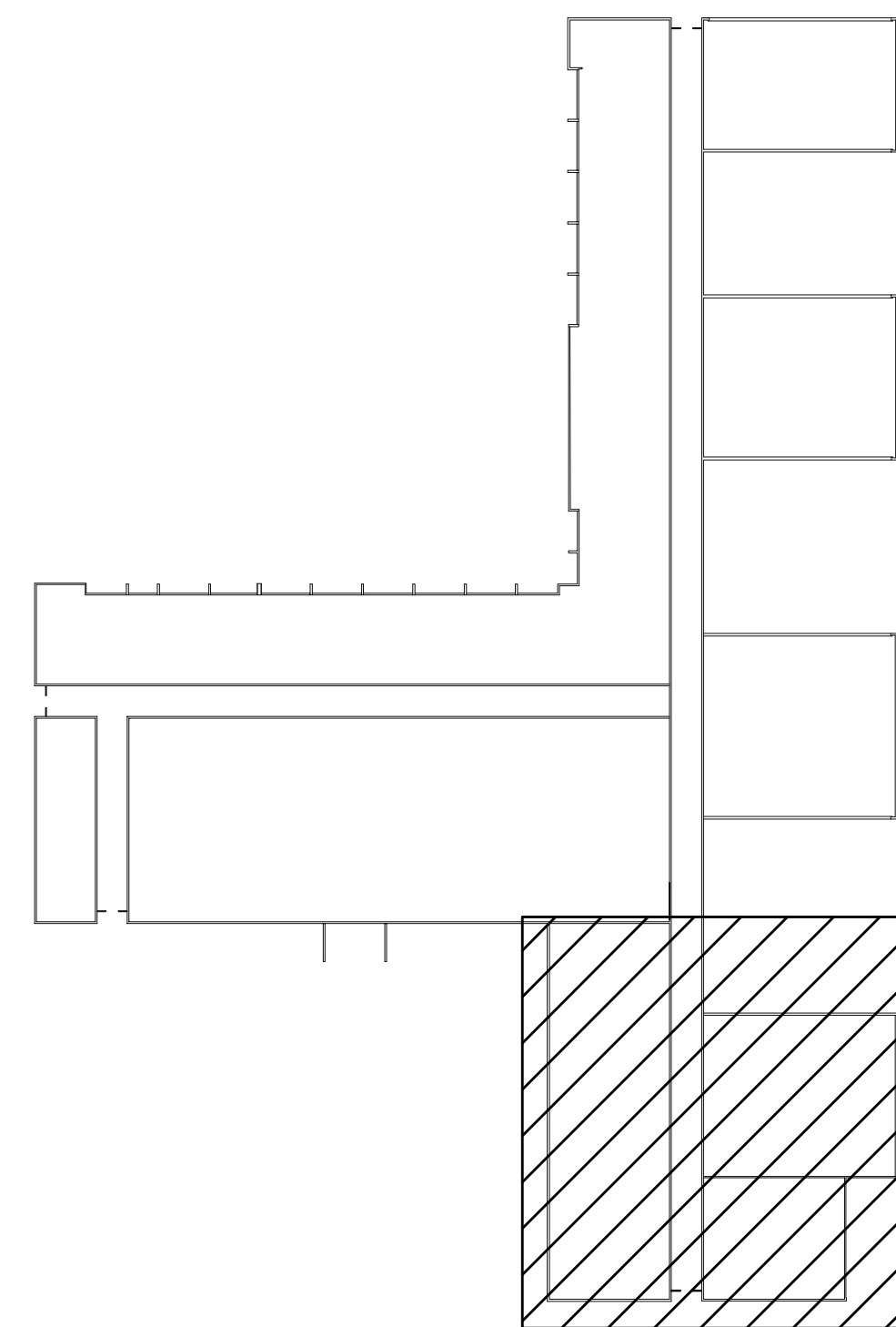


AREA "A" MECHANICAL DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



KEY PLAN



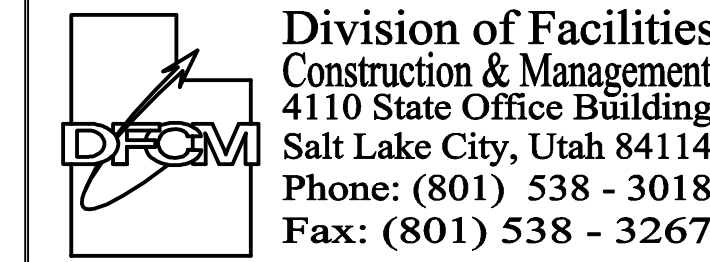
AREA "A"

- SHEET NOTES:**
- 1 GAS PIPING EXISTING TO REMAIN.
 - 2 DEMO EXISTING RADIANT TUBE BURNER AND ASSOCIATED CONTROLS.
 - 3 DEMO ALL EXISTING RADIANT TUBE PIPING AS SHOWN.
 - 4 DEMO VACUUM PUMP AND ASSOCIATED CONTROL PIPING.
 - 5 EXISTING CONDENSATE DRAIN PIPE TO REMAIN FOR CONNECTION TO NEW SYSTEM.
 - 6 REMOVE EXISTING THERMOSTAT. FIELD VERIFY EXACT LOCATION.
 - 7 EXISTING EQUIPMENT TO REMAIN.

- GENERAL NOTES:**
1. EXISTING SYSTEM TO BE REMOVED IN PHASES. ONLY ONE VACUUM PUMP SYSTEM TO BE REMOVED AT A TIME. ONCE THIS AREA IS BACK ONLINE WITH NEW SYSTEM, DEMO CAN BEGIN ON NEXT AREA.

State of Utah

Department of Administrative Services



Internet: <http://www.dfc.state.ut.us>

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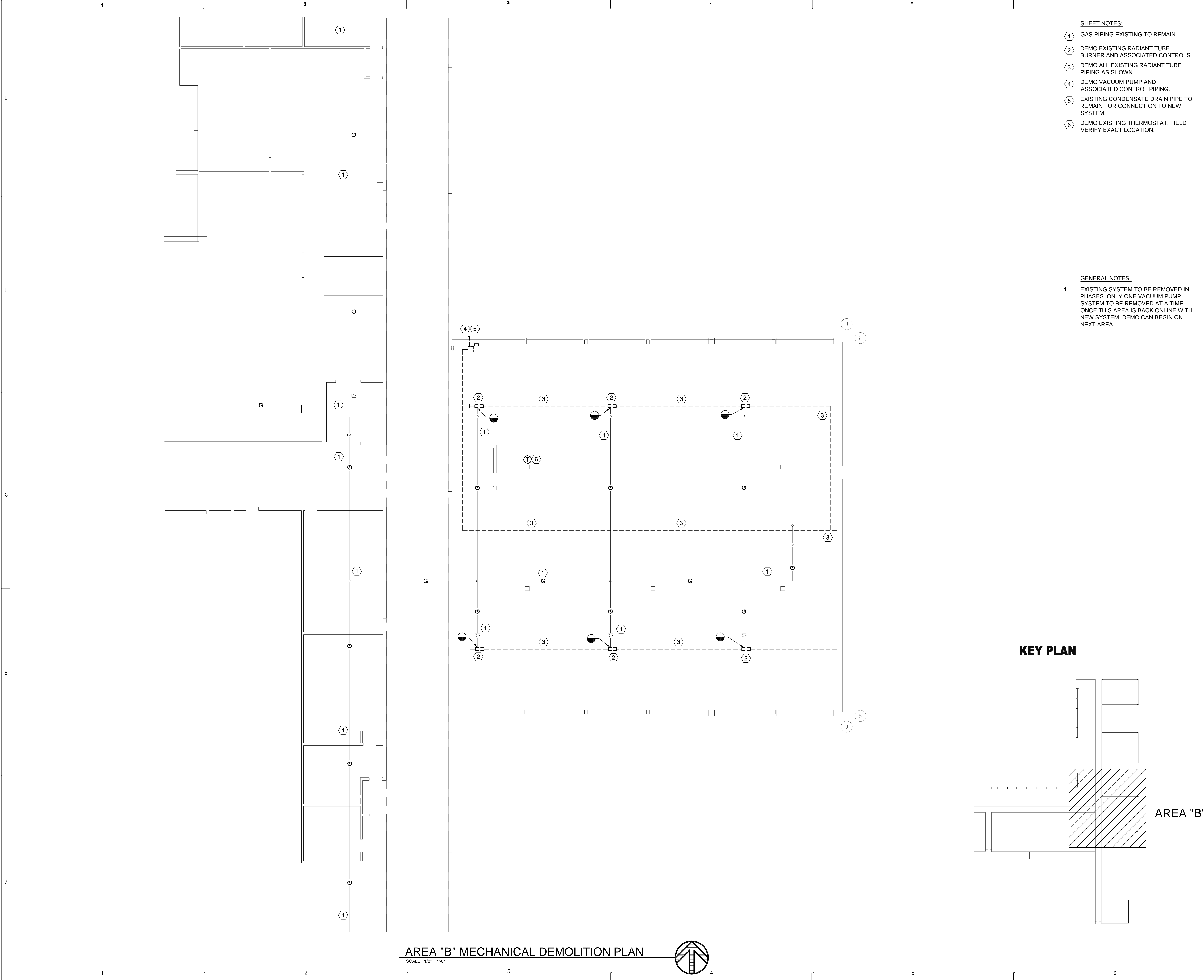
SLC, 84118

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PROJECT MANAGER: WP	
DRAWN BY: STAFF	
CHECKED BY: WP	
DATE: 07/14/08	
WHW JOB NO.: 08032	

SHEET TITLE
**AREA "A" MECHANICAL
DEMOLITION PLAN**

SHEET NO.
MD101



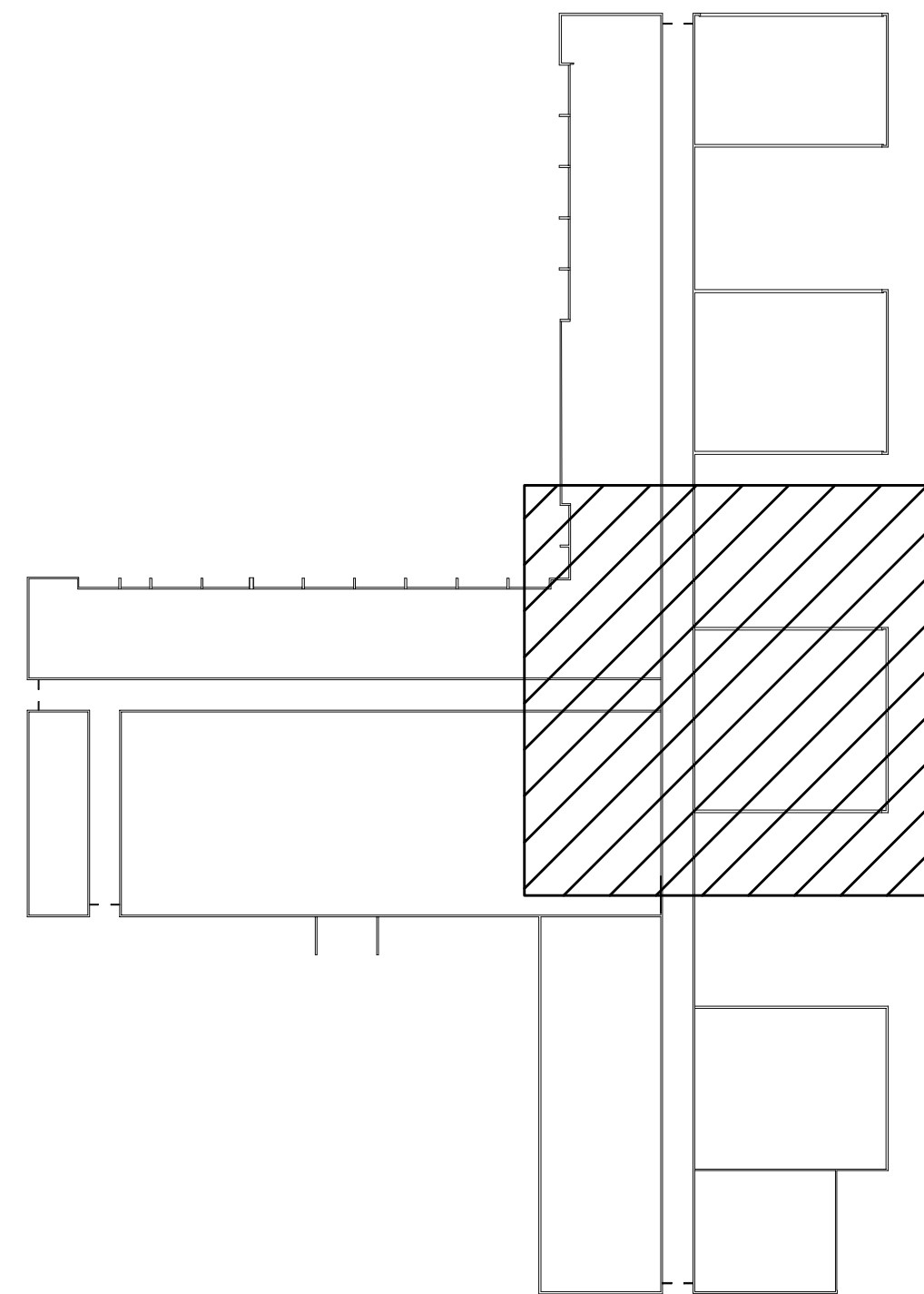
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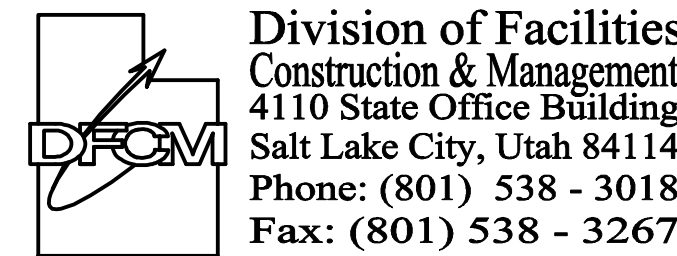
KEY PLAN



AREA "B"

State of Utah

Department of Administrative Services



Internet: <http://www.dfc.state.ut.us>

CONSULTANTS



PROJECT NAME & ADDRESS

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REPLACEMENT**

DFCM #08212900

SLC, 84118

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STAFF
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SHEET TITLE



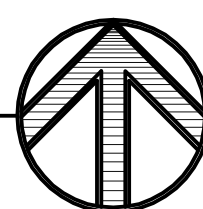
**AREA "B" MECHANICAL
DEMOLITION PLAN**

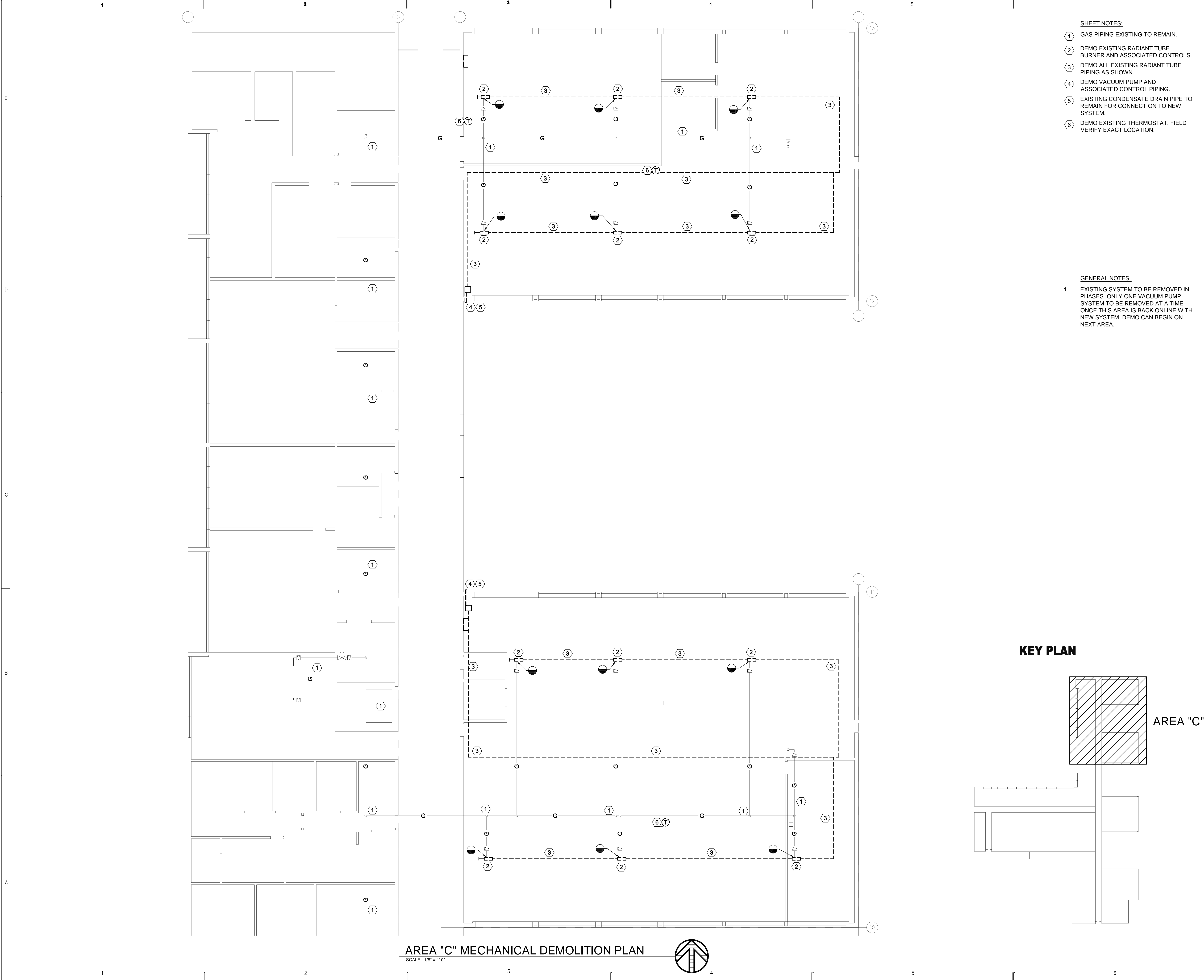
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MD102

AREA "B" MECHANICAL DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

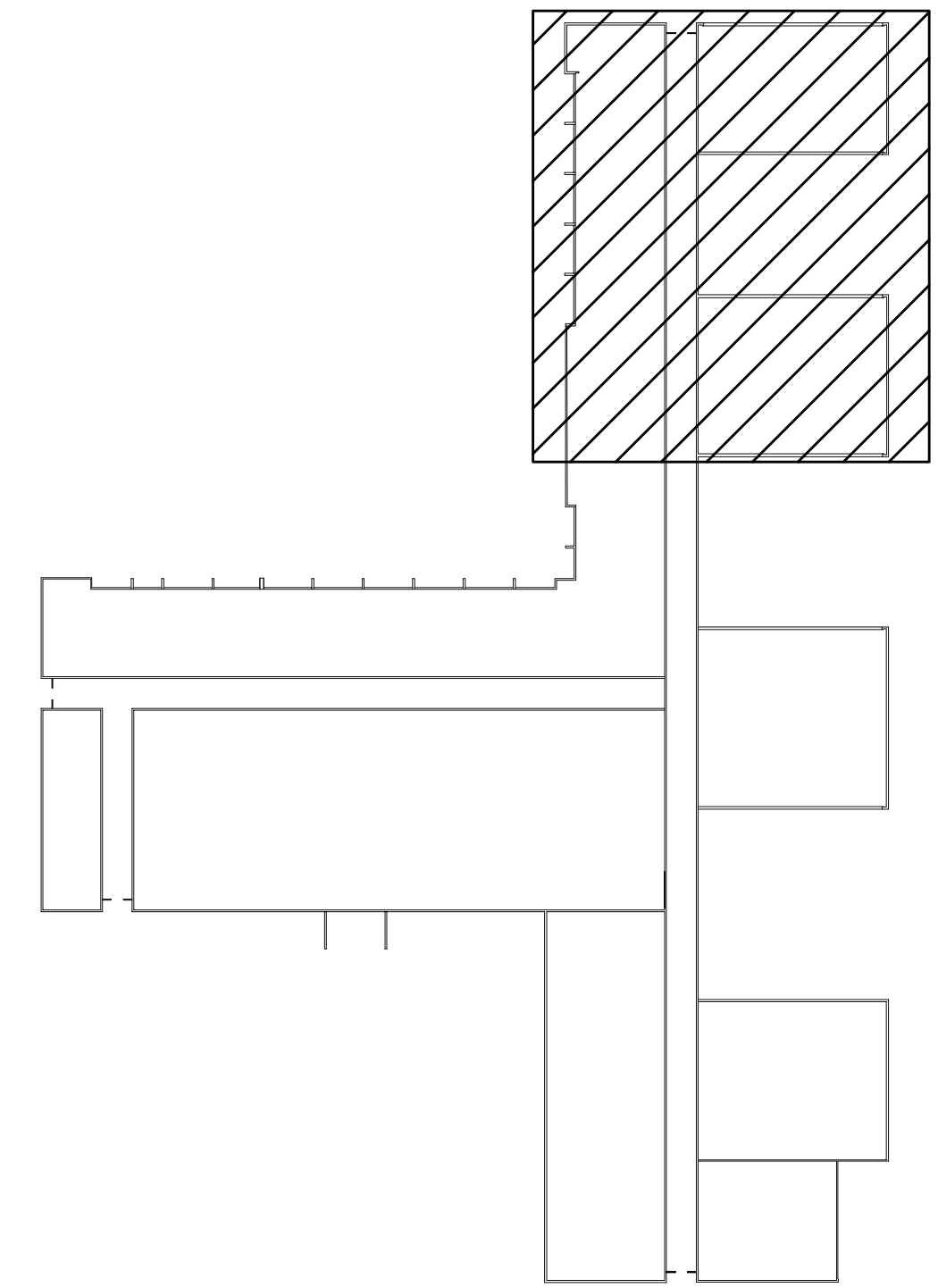




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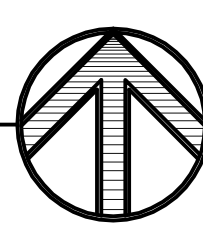
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KEY PLAN



AREA "C"

AREA "C" MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



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Department of Administrative Services



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PROJECT NAME & ADDRESS

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RAMPTON MTF-
RADIANT HEATING
SYSTEM
REPLACEMENT**

DFCM #08212900
SLC, 84118

MARK	DATE	REVISION

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WP

DRAWN BY:
STAFF

CHECKED BY:
WP

DATE:
07/14/08

WHW JOB NO.:
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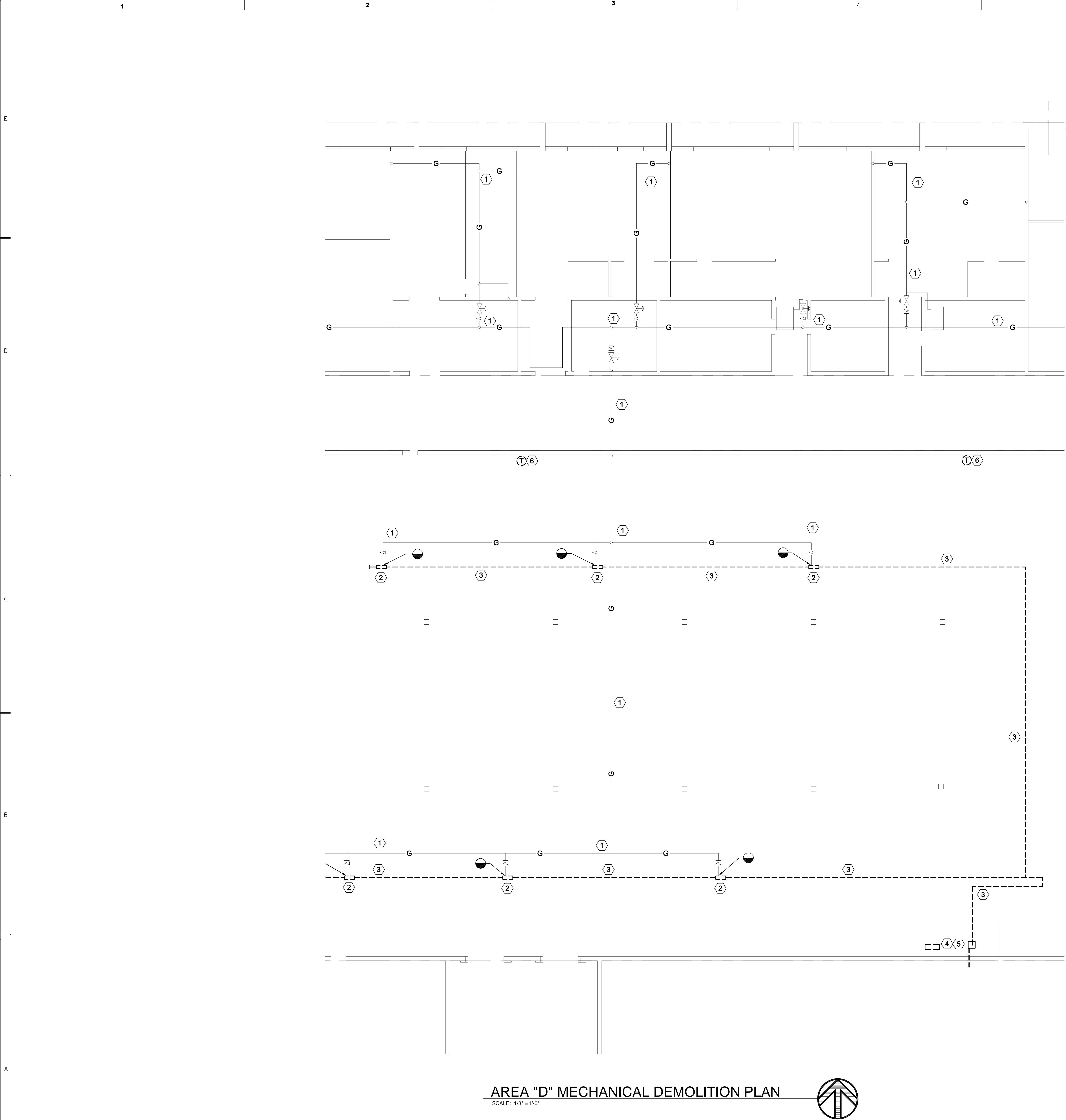
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**AREA "C" MECHANICAL
DEMOLITION PLAN**

SHEET NO.

MD103



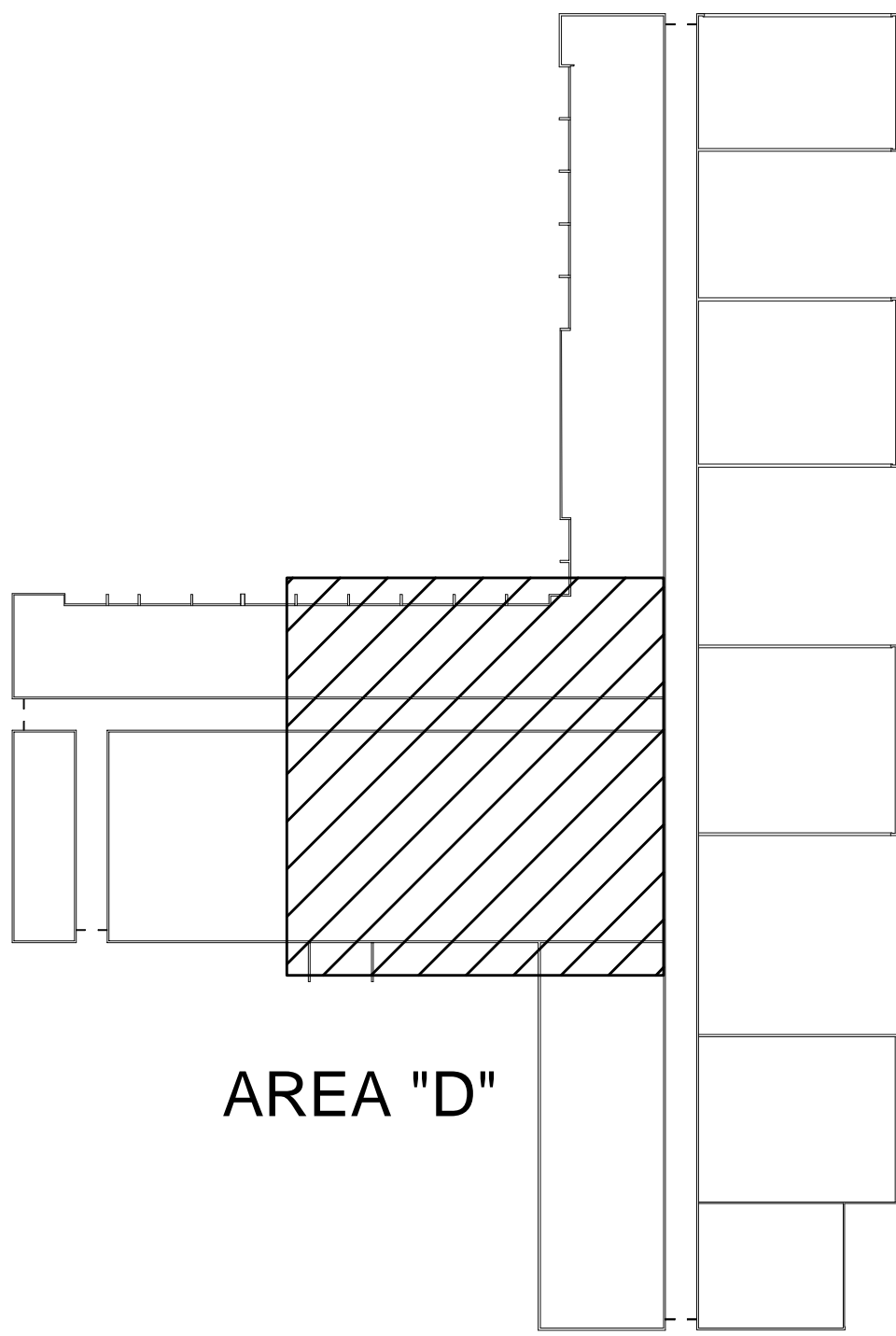
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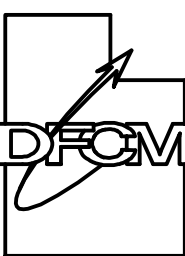
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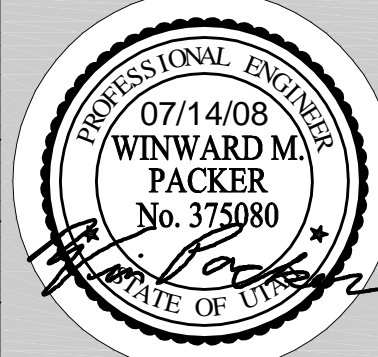
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SHEET TITLE

**AREA "D" MECHANICAL
DEMOLITION PLAN**

SHEET NO.

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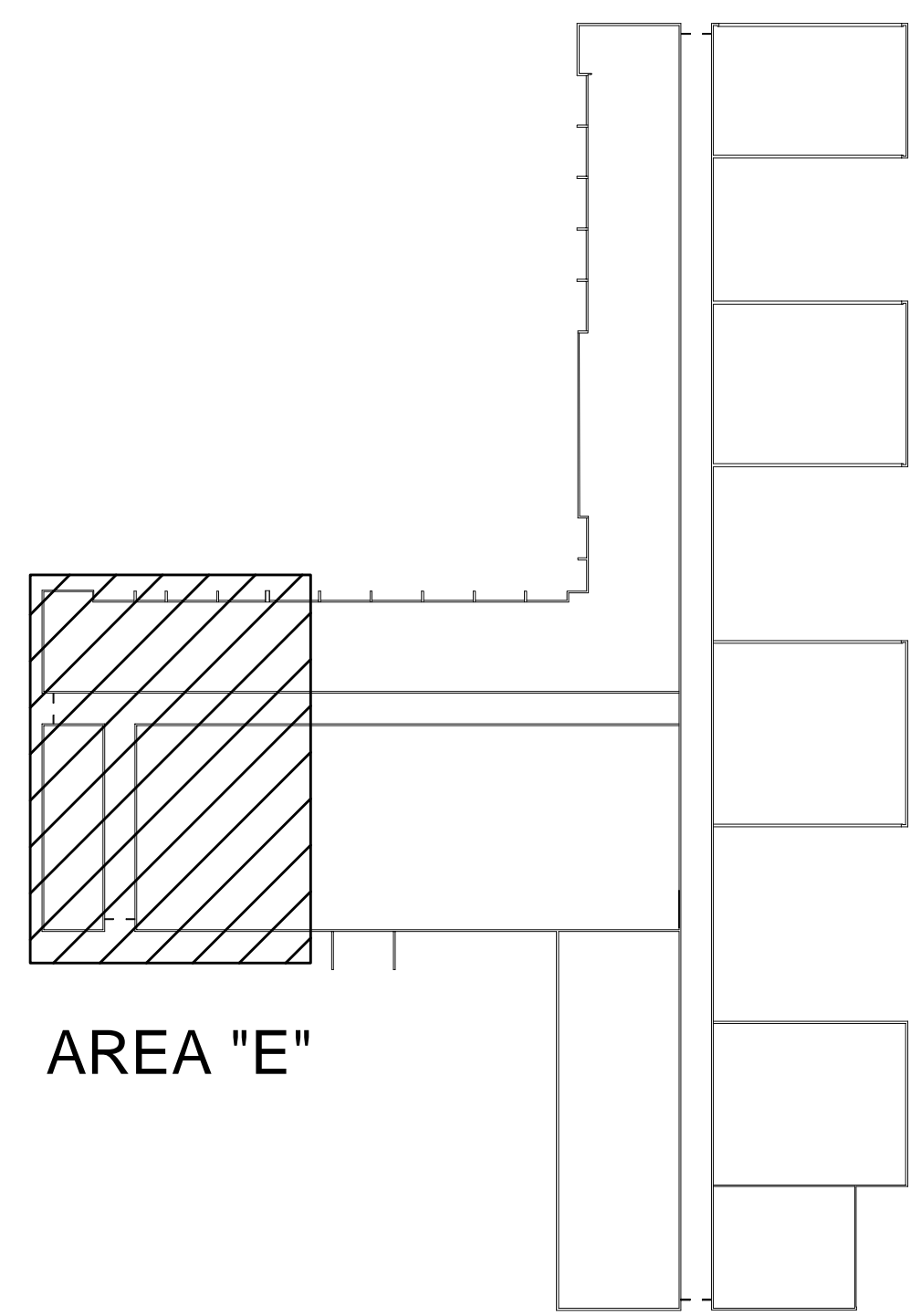




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KEY PLAN



AREA "E" MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

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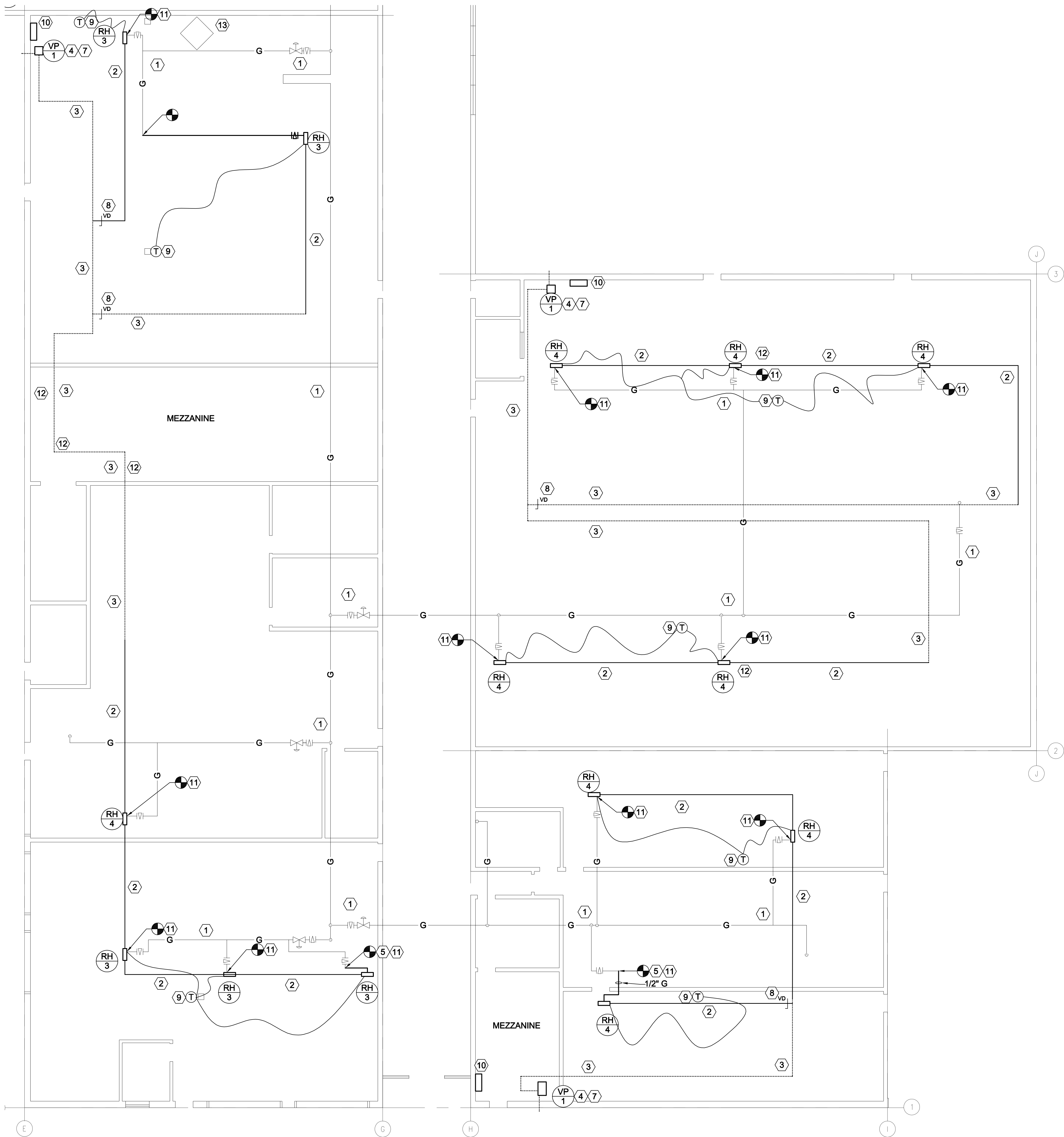
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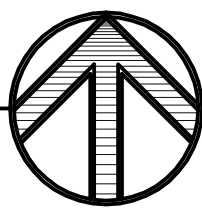
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DEMOLITION PLAN**

SHEET NO. **MD105**

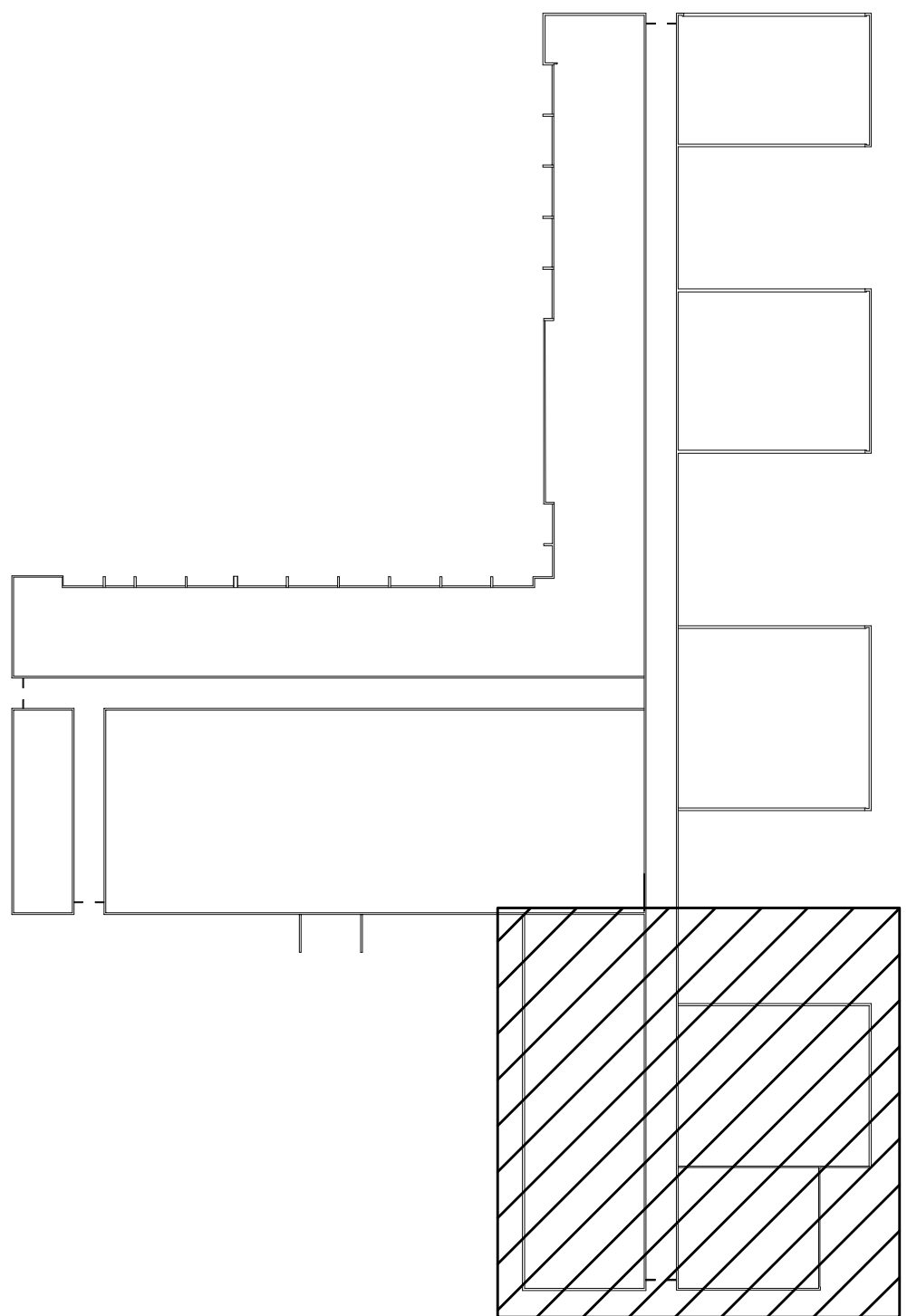


AREA "A" MECHANICAL PLAN

SCALE: 1/8" = 1'-0"



KEY PLAN



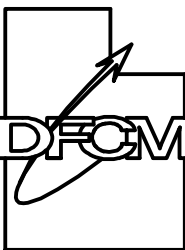
AREA "A"

SHEET NOTES:

- EXISTING GAS PIPING TO REMAIN.
- RADIANT PIPE.
- TAIL PIECE PIPING. SLOPE ACCORDING TO MANUFACTURERS INSTALLATION INSTRUCTIONS TOWARD VACUUM PUMP.
- REUSE EXISTING PENETRATIONS THROUGH STRUCTURE.
- EXTEND GAS PIPING AS SHOWN. FIELD VERIFY EXACT LOCATION.
- PROVIDE BARRIER SHIELD ON RADIANT TUBE PIPING WHEN PASSING OVER EXISTING STATIONARY EQUIPMENT. FIELD VERIFY EXACT LOCATIONS.
- PROVIDE NEW CONDENSATE PIPING TO THE OUTSIDE. REUSE EXISTING PENETRATIONS WHERE POSSIBLE. FIELD VERIFY.
- PROVIDE BALANCING DAMPERS AS REQUIRED BY MANUFACTURER.
- PROVIDE NEW THERMOSTAT CENTRALLY LOCATED. COORDINATE WITH USER FOR EXACT LOCATION. TIE INTO COMMON CONTROL PANEL ASSOCIATED WITH EACH VACUUM PUMP.
- PROVIDE NEW CONTROL PANEL. FIELD VERIFY EXACT LOCATION. THIS CONTRACTOR WILL HIRE LICENSED ELECTRICIAN TO PROVIDE NEW 120V POWER TO NEW CONTROLS AS REQUIRED BY MANUFACTURER.
- RECONNECT TO EXISTING GAS LINE AT THIS APPROX LOCATION. PIPE PER DETAIL SHEET PE501.
- PROVIDE HEAT BARRIER SHIELD WHERE OBJECTS BELOW ARE WITHIN MANUFACTURERS RECOMMENDED CLEARANCE.
- EXISTING EQUIPMENT TO REMAIN.

GENERAL NOTES:

- FOLLOW ALL MANUFACTURER INSTALLATION INSTRUCTIONS.
- NO NEW PENETRATIONS, REUSE EXISTING PENETRATIONS.
- COORDINATE RADIANT TUBE AND TAIL PIPING WITH EXISTING LIGHTING LAYOUTS. FIELD VERIFY.
- SLOPE PIPING MIN 1" PER 20' ON TAILPIPE AND 1/2" PER FOOT ON RADIANT TUBE. FOLLOW MANUFACTURER INSTRUCTIONS.



Division of Facilities
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8619 Sandy Parkway Suite 101
SANDY, UTAH 84070
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EMAIL: swalton@whw-engineering.com

PROJECT NAME & ADDRESS

**UDOT
RAMPTON MTF-
RADIANT HEATING
SYSTEM
REPLACEMENT**

DFCM #08212900

SLC, 84118

MARK	DATE	REVISION

PROJECT MANAGER:
WP

DRAWN BY:

STAFF

CHECKED BY:

WP

DATE:

07/14/08

WHW JOB NO.:

08032

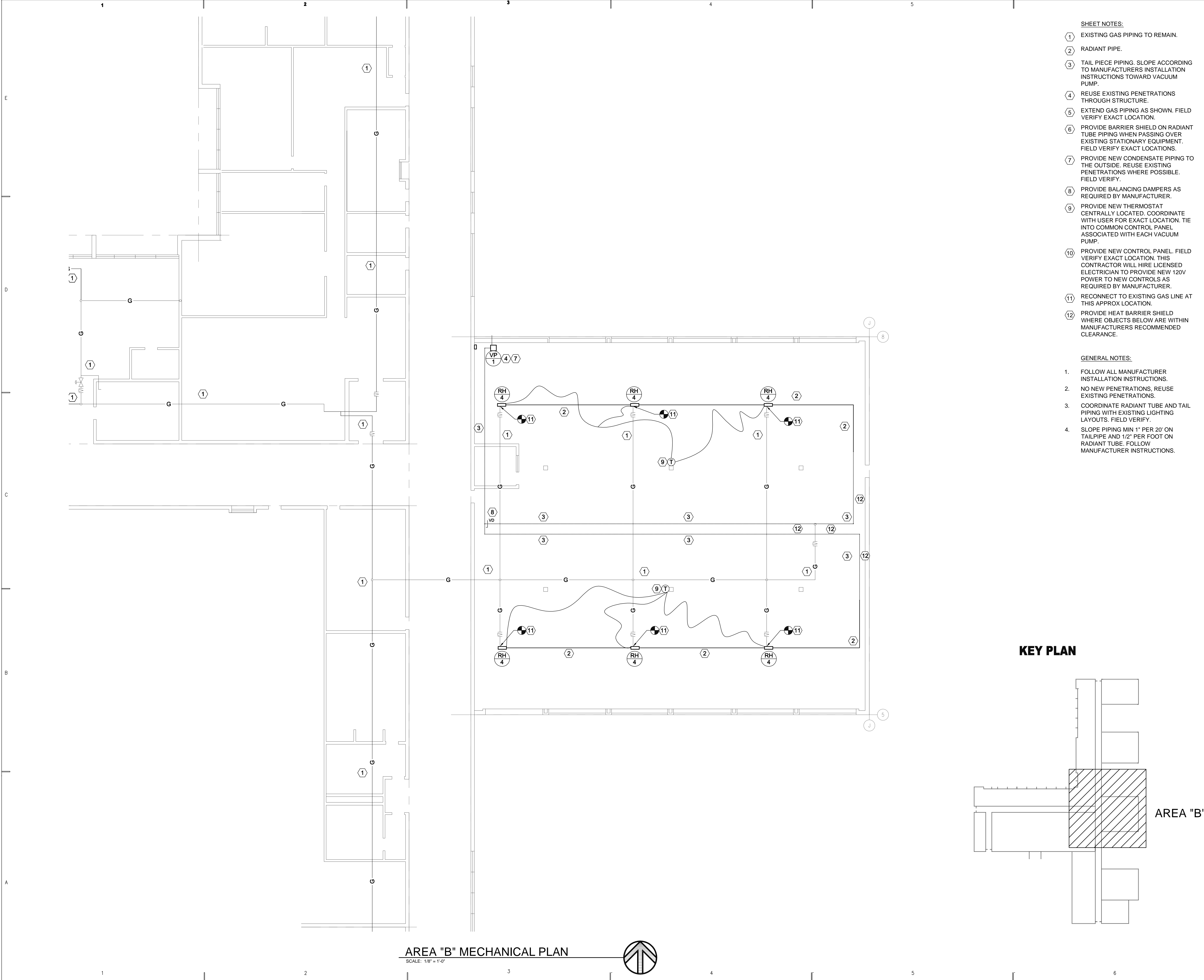
SHEET TITLE



**AREA "A" MECHANICAL
PLAN**

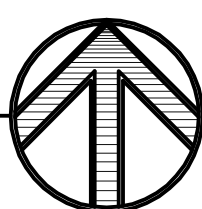
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ME101

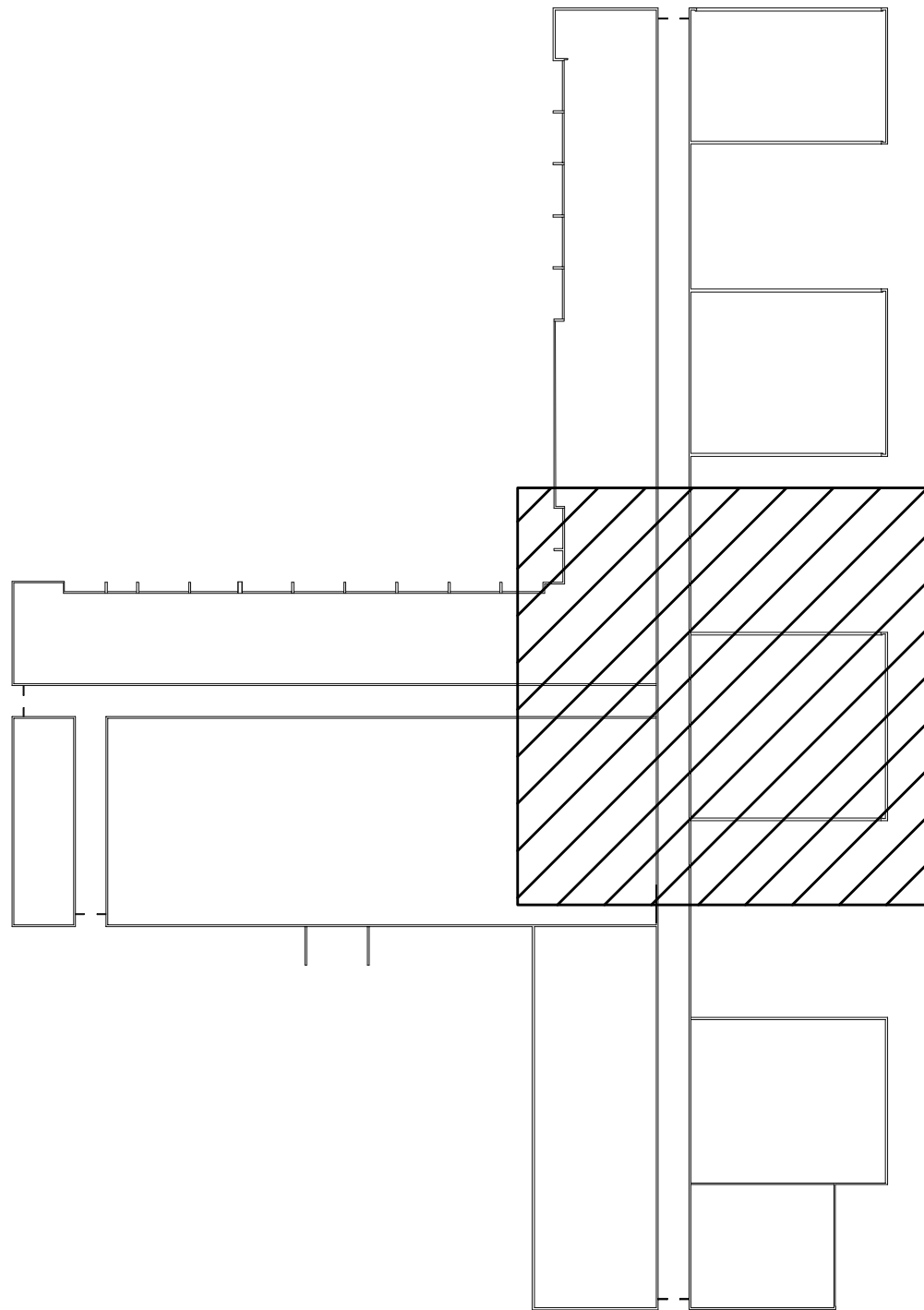


AREA "B" MECHANICAL PLAN

SCALE: 1/8" = 1'-0"



KEY PLAN



AREA "B"

- SHEET NOTES:**
- EXISTING GAS PIPING TO REMAIN.
 - RADIANT PIPE.
 - TAIL PIECE PIPING. SLOPE ACCORDING TO MANUFACTURERS INSTALLATION INSTRUCTIONS TOWARD VACUUM PUMP.
 - REUSE EXISTING PENETRATIONS THROUGH STRUCTURE.
 - EXTEND GAS PIPING AS SHOWN. FIELD VERIFY EXACT LOCATION.
 - PROVIDE BARRIER SHIELD ON RADIANT TUBE PIPING WHEN PASSING OVER EXISTING STATIONARY EQUIPMENT. FIELD VERIFY EXACT LOCATIONS.
 - PROVIDE NEW CONDENSATE PIPING TO THE OUTSIDE. REUSE EXISTING PENETRATIONS WHERE POSSIBLE. FIELD VERIFY.
 - PROVIDE BALANCING DAMPERS AS REQUIRED BY MANUFACTURER.
 - PROVIDE NEW THERMOSTAT CENTRALLY LOCATED. COORDINATE WITH USER FOR EXACT LOCATION. TIE INTO COMMON CONTROL PANEL ASSOCIATED WITH EACH VACUUM PUMP.
 - PROVIDE NEW CONTROL PANEL. FIELD VERIFY EXACT LOCATION. THIS CONTRACTOR WILL HIRE LICENSED ELECTRICIAN TO PROVIDE NEW 120V POWER TO NEW CONTROLS AS REQUIRED BY MANUFACTURER.
 - RECONNECT TO EXISTING GAS LINE AT THIS APPROX LOCATION.
 - PROVIDE HEAT BARRIER SHIELD WHERE OBJECTS BELOW ARE WITHIN MANUFACTURERS RECOMMENDED CLEARANCE.

- GENERAL NOTES:**
- FOLLOW ALL MANUFACTURER INSTALLATION INSTRUCTIONS.
 - NO NEW PENETRATIONS. REUSE EXISTING PENETRATIONS.
 - COORDINATE RADIANT TUBE AND TAIL PIPING WITH EXISTING LIGHTING LAYOUTS. FIELD VERIFY.
 - SLOPE PIPING MIN 1" PER 20' ON TAILPIPE AND 1/2" PER FOOT ON RADIANT TUBE. FOLLOW MANUFACTURER INSTRUCTIONS.

State of Utah

Department of Administrative Services



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PROJECT NAME & ADDRESS

**UDOT
RAMPTON MTF-
RADIANT HEATING
SYSTEM
REPLACEMENT**

DFCM #08212900

SLC, 84118

MARK	DATE	REVISION

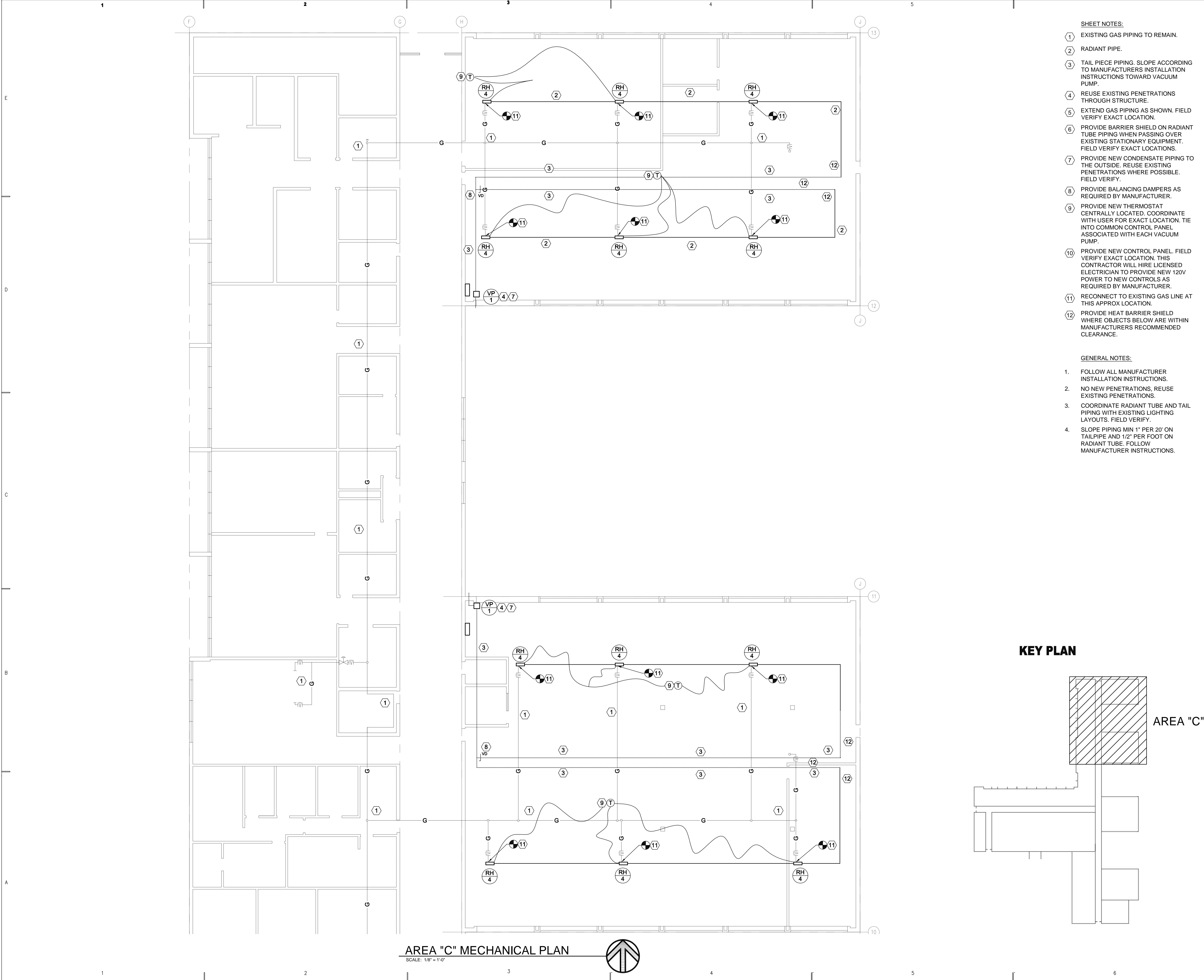
PROJECT MANAGER:
WP
DRAWN BY:
STAFF
CHECKED BY:
WP
DATE:
07/14/08
WHW JOB NO.:
08032
SHEET TITLE



**AREA "B" MECHANICAL
PLAN**

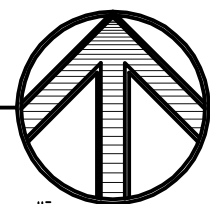
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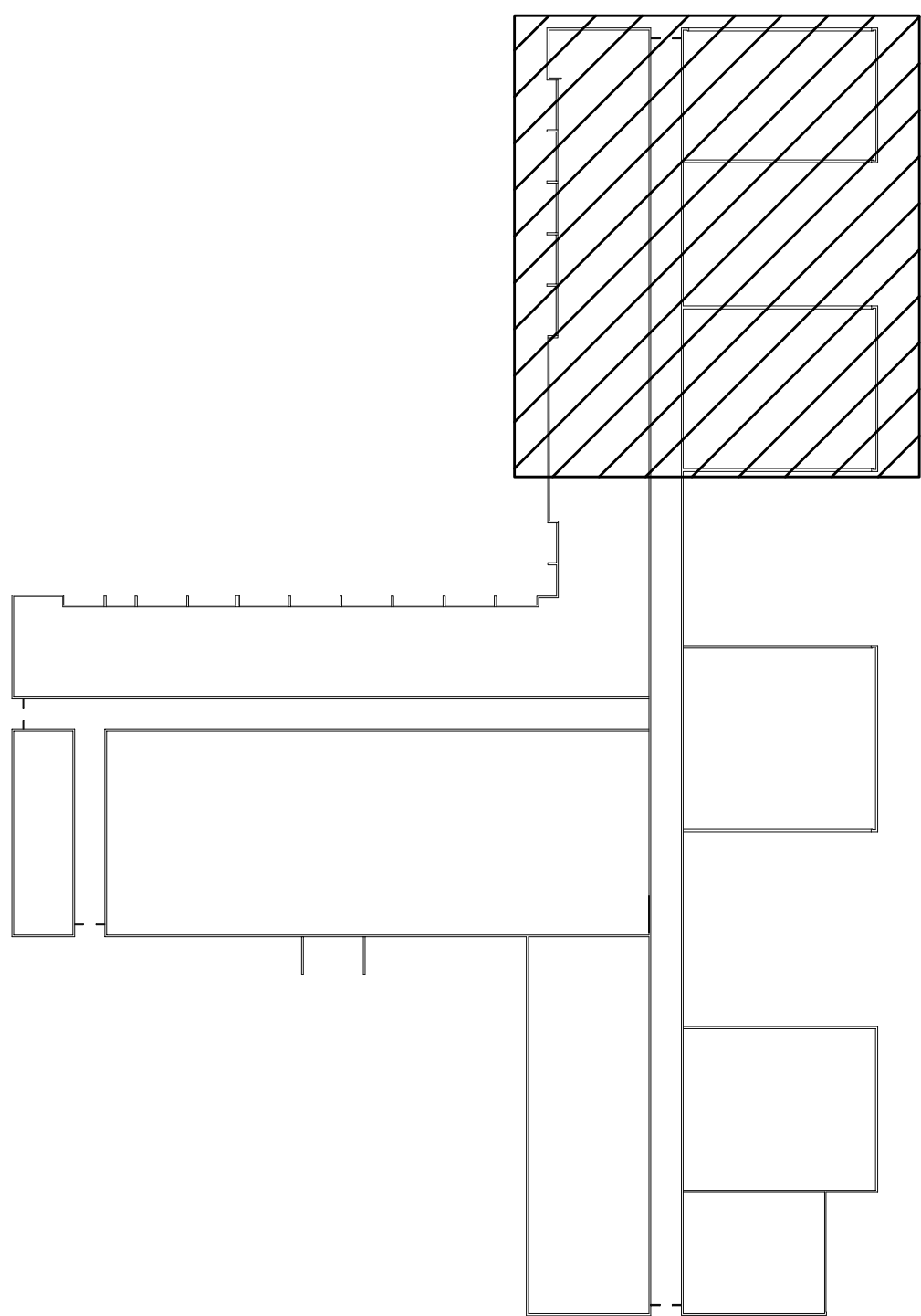


AREA "C" MECHANICAL PLAN

SCALE: 1/8" = 1'-0"



KEY PLAN



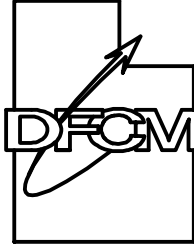
AREA "C"

SHEET NOTES:

- EXISTING GAS PIPING TO REMAIN.
- RADIANT PIPE.
- TAIL PIECE PIPING. SLOPE ACCORDING TO MANUFACTURERS INSTALLATION INSTRUCTIONS TOWARD VACUUM PUMP.
- REUSE EXISTING PENETRATIONS THROUGH STRUCTURE.
- EXTEND GAS PIPING AS SHOWN. FIELD VERIFY EXACT LOCATION.
- PROVIDE BARRIER SHIELD ON RADIANT TUBE PIPING WHEN PASSING OVER EXISTING STATIONARY EQUIPMENT. FIELD VERIFY EXACT LOCATIONS.
- PROVIDE NEW CONDENSATE PIPING TO THE OUTSIDE. REUSE EXISTING PENETRATIONS WHERE POSSIBLE. FIELD VERIFY.
- PROVIDE BALANCING DAMPERS AS REQUIRED BY MANUFACTURER.
- PROVIDE NEW THERMOSTAT CENTRALLY LOCATED. COORDINATE WITH USER FOR EXACT LOCATION. TIE INTO COMMON CONTROL PANEL ASSOCIATED WITH EACH VACUUM PUMP.
- PROVIDE NEW CONTROL PANEL. FIELD VERIFY EXACT LOCATION. THIS CONTRACTOR WILL HIRE LICENSED ELECTRICIAN TO PROVIDE NEW 120V POWER TO NEW CONTROLS AS REQUIRED BY MANUFACTURER.
- RECONNECT TO EXISTING GAS LINE AT THIS APPROX LOCATION.
- PROVIDE HEAT BARRIER SHIELD WHERE OBJECTS BELOW ARE WITHIN MANUFACTURERS RECOMMENDED CLEARANCE.

GENERAL NOTES:

- FOLLOW ALL MANUFACTURER INSTALLATION INSTRUCTIONS.
- NO NEW PENETRATIONS. REUSE EXISTING PENETRATIONS.
- COORDINATE RADIANT TUBE AND TAIL PIPING WITH EXISTING LIGHTING LAYOUTS. FIELD VERIFY.
- SLOPE PIPING MIN 1" PER 20' ON TAILPIPE AND 1/2" PER FOOT ON RADIANT TUBE. FOLLOW MANUFACTURER INSTRUCTIONS.



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PROJECT NAME & ADDRESS

**UDOT
RAMPTON MTF-
RADIANT HEATING
SYSTEM
REPLACEMENT**

DFCM #08212900

SLC, 84118

MARK	DATE	REVISION

PROJECT MANAGER:

WP

DRAWN BY:

STAFF

CHECKED BY:

WP

DATE:

07/14/08

WHW JOB NO.:

08032

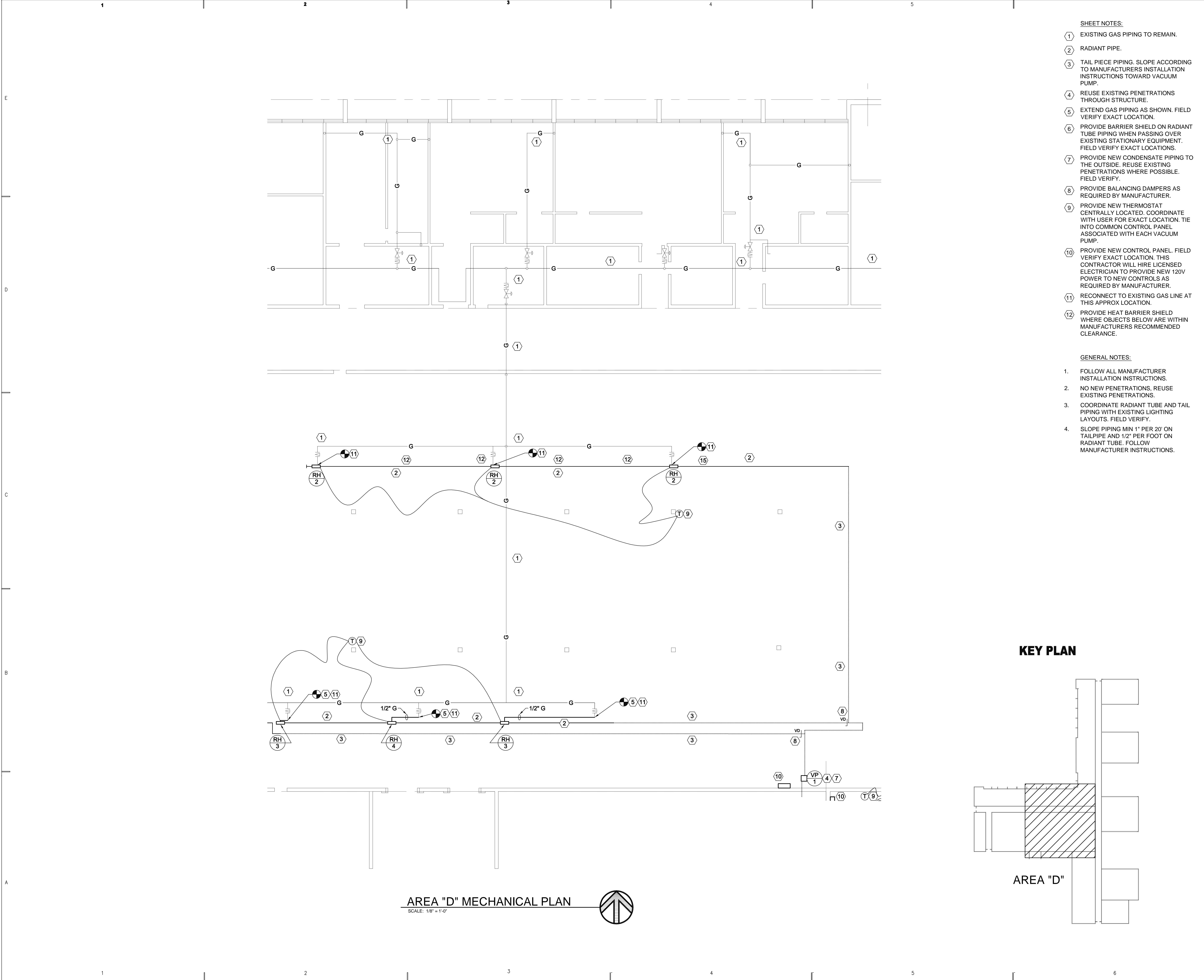
SHEET TITLE

**AREA "C" MECHANICAL
PLAN**

SHEET NO.

ME103

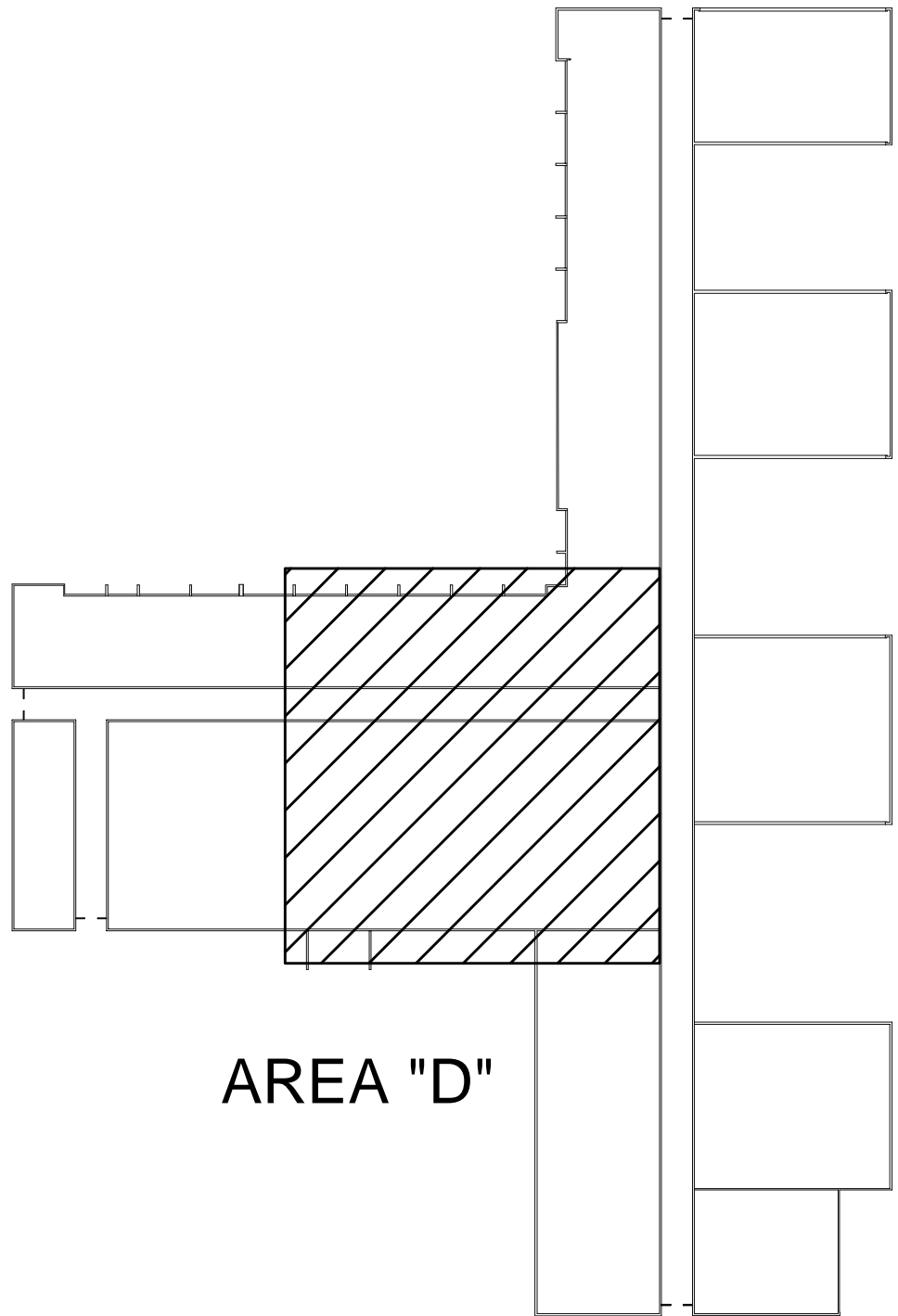




- SHEET NOTES:**
- 1 EXISTING GAS PIPING TO REMAIN.
 - 2 RADIANT PIPE.
 - 3 TAIL PIECE PIPING. SLOPE ACCORDING TO MANUFACTURERS INSTALLATION INSTRUCTIONS TOWARD VACUUM PUMP.
 - 4 REUSE EXISTING PENETRATIONS THROUGH STRUCTURE.
 - 5 EXTEND GAS PIPING AS SHOWN. FIELD VERIFY EXACT LOCATION.
 - 6 PROVIDE BARRIER SHIELD ON RADIANT TUBE PIPING WHEN PASSING OVER EXISTING STATIONARY EQUIPMENT. FIELD VERIFY EXACT LOCATIONS.
 - 7 PROVIDE NEW CONDENSATE PIPING TO THE OUTSIDE. REUSE EXISTING PENETRATIONS WHERE POSSIBLE. FIELD VERIFY.
 - 8 PROVIDE BALANCING DAMPERS AS REQUIRED BY MANUFACTURER.
 - 9 PROVIDE NEW THERMOSTAT CENTRALLY LOCATED. COORDINATE WITH USER FOR EXACT LOCATION. TIE INTO COMMON CONTROL PANEL ASSOCIATED WITH EACH VACUUM PUMP.
 - 10 PROVIDE NEW CONTROL PANEL. FIELD VERIFY EXACT LOCATION. THIS CONTRACTOR WILL HIRE LICENSED ELECTRICIAN TO PROVIDE NEW 120V POWER TO NEW CONTROLS AS REQUIRED BY MANUFACTURER.
 - 11 RECONNECT TO EXISTING GAS LINE AT THIS APPROX LOCATION.
 - 12 PROVIDE HEAT BARRIER SHIELD WHERE OBJECTS BELOW ARE WITHIN MANUFACTURERS RECOMMENDED CLEARANCE.

- GENERAL NOTES:**
- 1. FOLLOW ALL MANUFACTURER INSTALLATION INSTRUCTIONS.
 - 2. NO NEW PENETRATIONS, REUSE EXISTING PENETRATIONS.
 - 3. COORDINATE RADIANT TUBE AND TAIL PIPING WITH EXISTING LIGHTING LAYOUTS. FIELD VERIFY.
 - 4. SLOPE PIPING MIN 1" PER 20' ON TAILPIPE AND 1/2" PER FOOT ON RADIANT TUBE. FOLLOW MANUFACTURER INSTRUCTIONS.

KEY PLAN



AREA "D" MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

State of Utah
Department of Administrative Services

Division of Facilities
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EMAIL: escales@whw-engineering.com

PROJECT NAME & ADDRESS

UDOT
RAMPTON MTF-
RADIANT HEATING
SYSTEM
REPLACEMENT

DFCM #08212900

SLC, 84118

MARK	DATE	REVISION

PROJECT MANAGER:
WP

DRAWN BY:
STAFF

CHECKED BY:
WP

DATE:
07/14/08

WHW JOB NO.:
08032

SHEET TITLE
AREA "D" MECHANICAL PLAN

PROFESSIONAL ENGINEER
07/14/08
WINWARD M.
PACKER
No. 375080
STATE OF UTAH

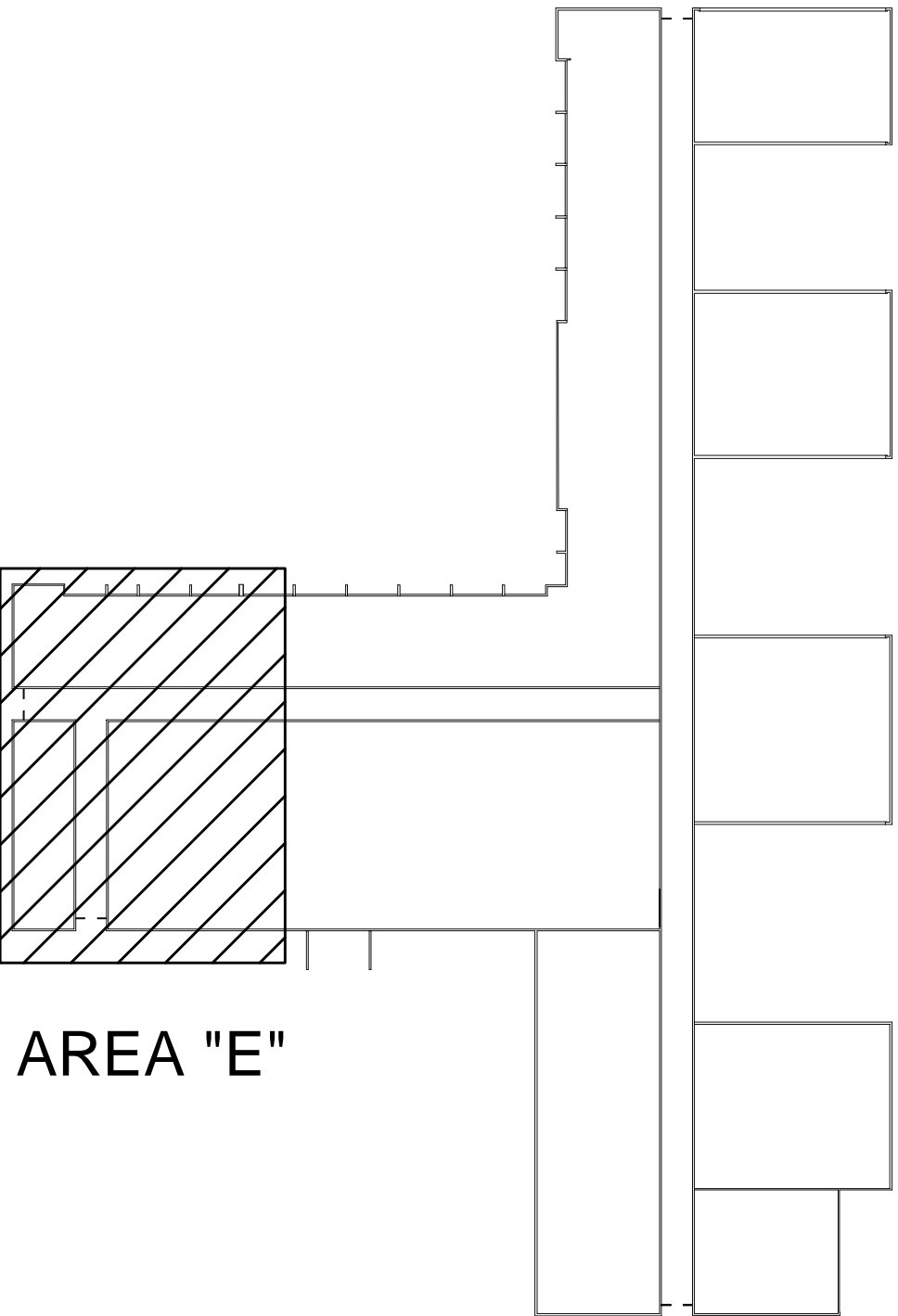
SHEET NO.
ME104



- SHEET NOTES:**
- EXISTING GAS PIPING TO REMAIN.
 - RADIANT PIPE.
 - TAIL PIECE PIPING. SLOPE ACCORDING TO MANUFACTURERS INSTALLATION INSTRUCTIONS TOWARD VACUUM PUMP.
 - REUSE EXISTING PENETRATIONS THROUGH STRUCTURE.
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 - RECONNECT TO EXISTING GAS LINE AT THIS APPROX LOCATION.
 - PROVIDE HEAT BARRIER SHIELD WHERE OBJECTS BELOW ARE WITHIN MANUFACTURERS RECOMMENDED CLEARANCE.

- GENERAL NOTES:**
- FOLLOW ALL MANUFACTURER INSTALLATION INSTRUCTIONS.
 - NO NEW PENETRATIONS. REUSE EXISTING PENETRATIONS.
 - COORDINATE RADIANT TUBE AND TAIL PIPING WITH EXISTING LIGHTING LAYOUTS. FIELD VERIFY.
 - SLOPE PIPING MIN 1" PER 20' ON TAILPIPE AND 1/2" PER FOOT ON RADIANT TUBE. FOLLOW MANUFACTURER INSTRUCTIONS.

KEY PLAN



State of Utah
Department of Administrative Services

DFCM

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PROJECT NAME & ADDRESS

UDOT
RAMPTON MTF-
RADIANT HEATING
SYSTEM
REPLACEMENT

DFCM #08212900

SLC, 84118

MARK	DATE	REVISION

PROJECT MANAGER:
WP

DRAWN BY:
STAFF

CHECKED BY:
WP

DATE:
07/14/08

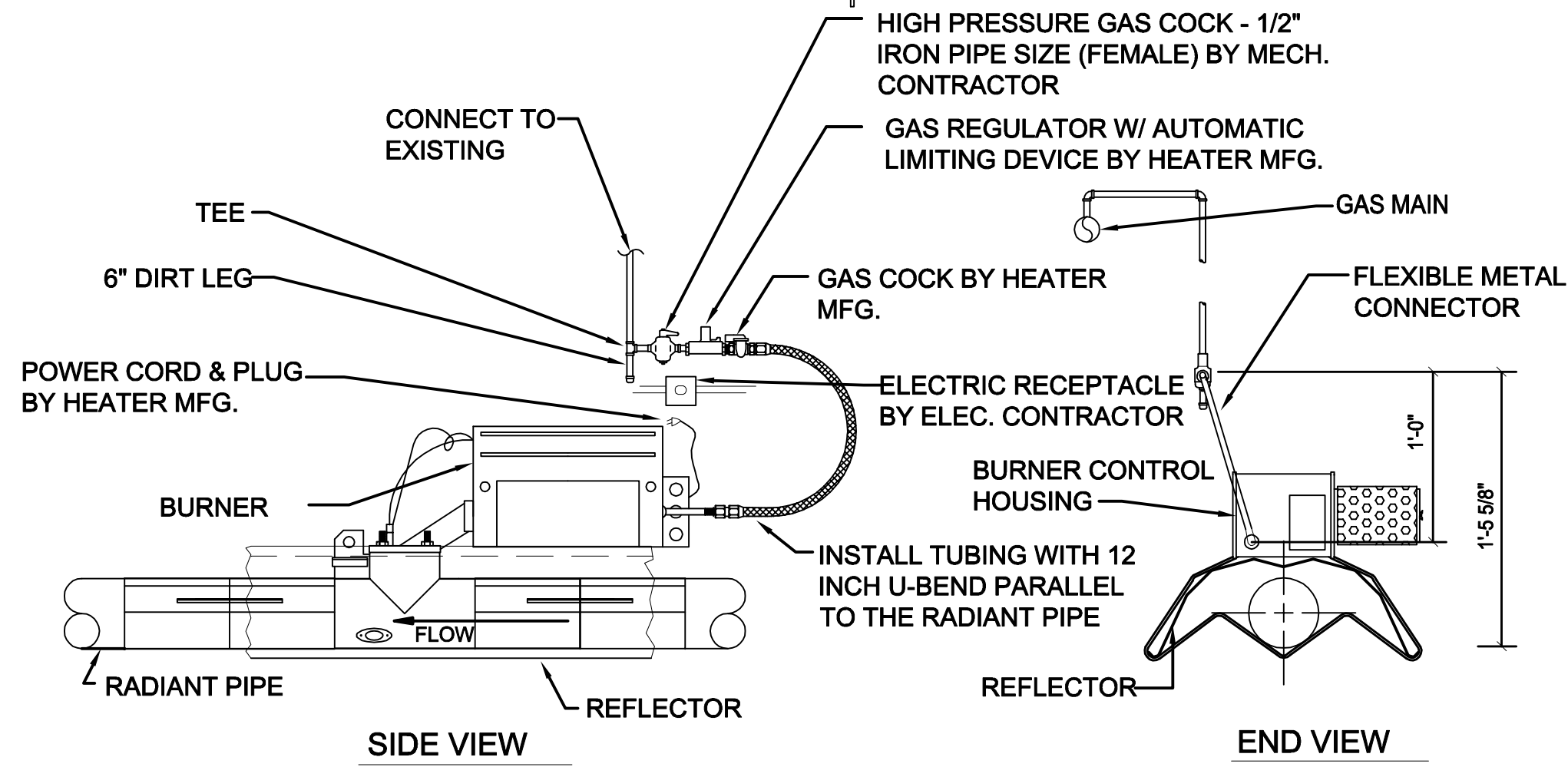
WHW JOB NO.:
08032

SHEET TITLE

PROFESSIONAL ENGINEER
07/14/08
WINWARD M.
PACKER
No. 375080
STATE OF UTAH

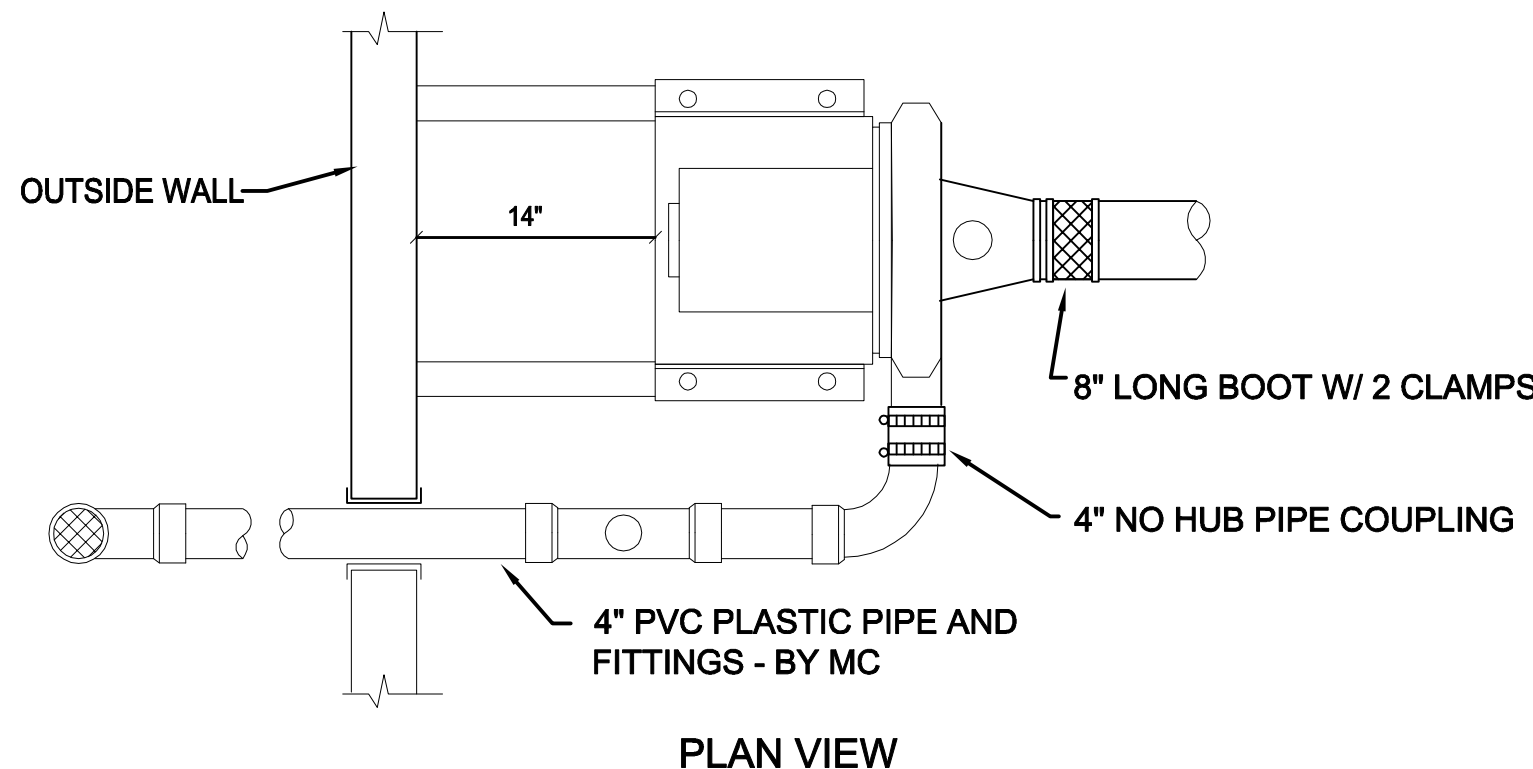
AREA "E" MECHANICAL
PLAN

SHEET NO.
ME105



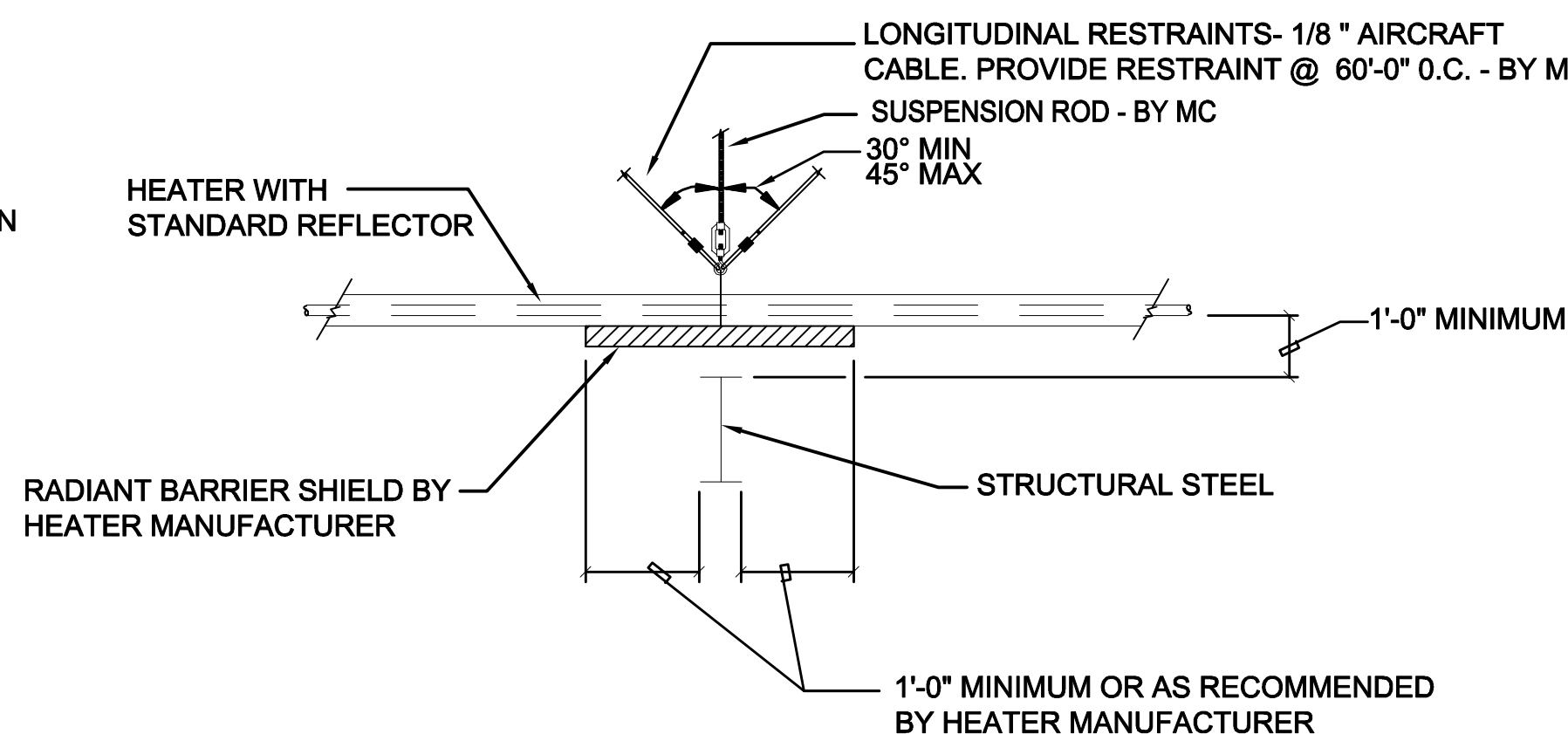
D1 GAS CONNECTION TO RADIANT BURNER

SCALE: NONE



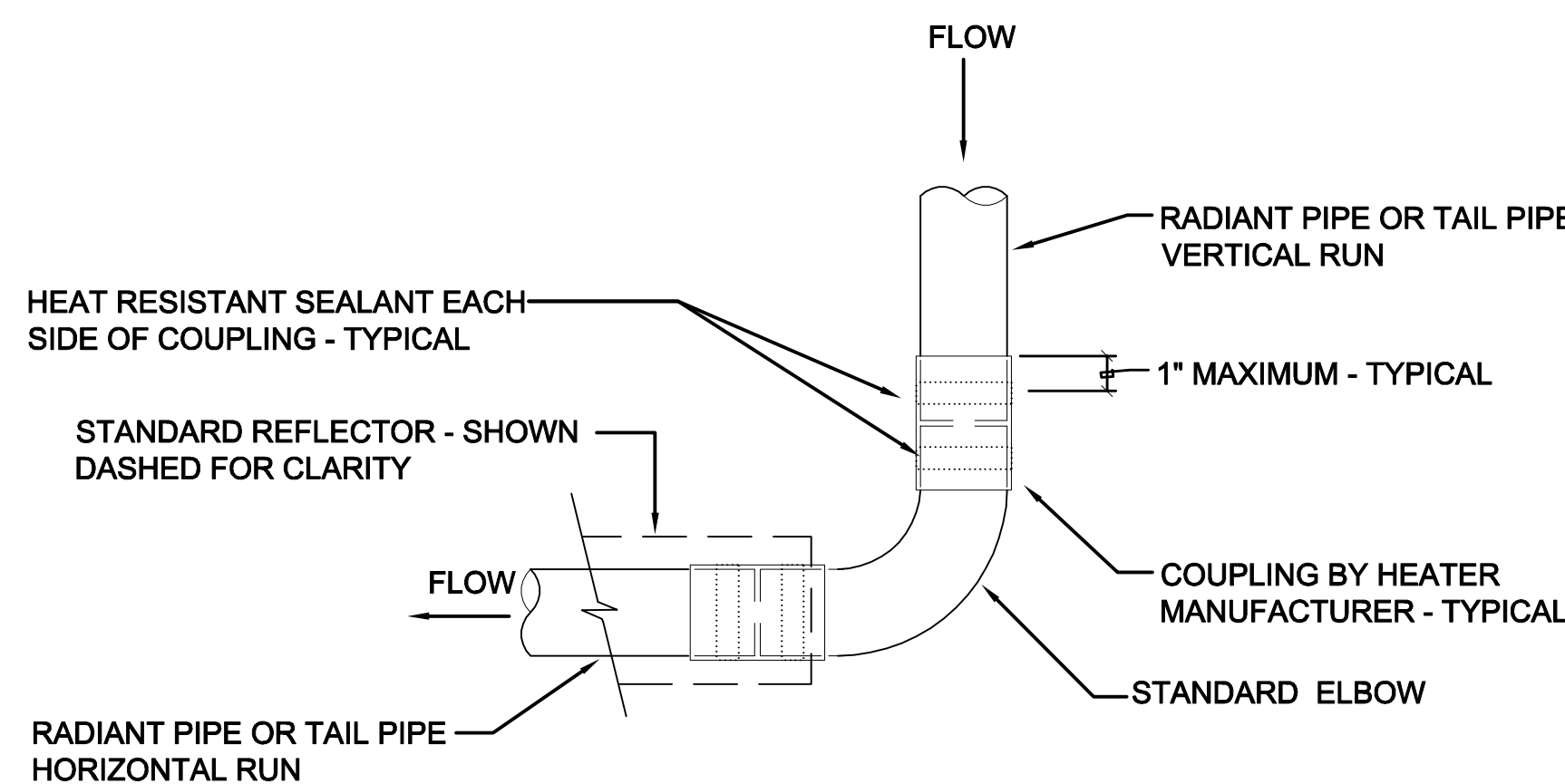
C3 VACUUM PUMP - SIDEWALL DISCHARGE

SCALE: NONE



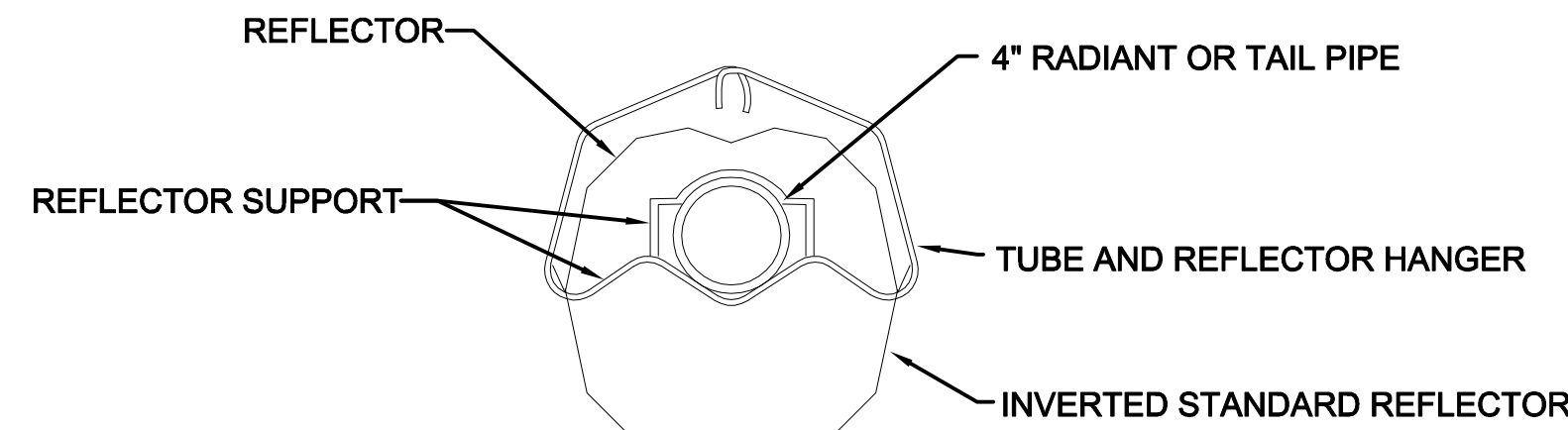
C5 RADIANT BARRIER SHIELD

SCALE: NONE

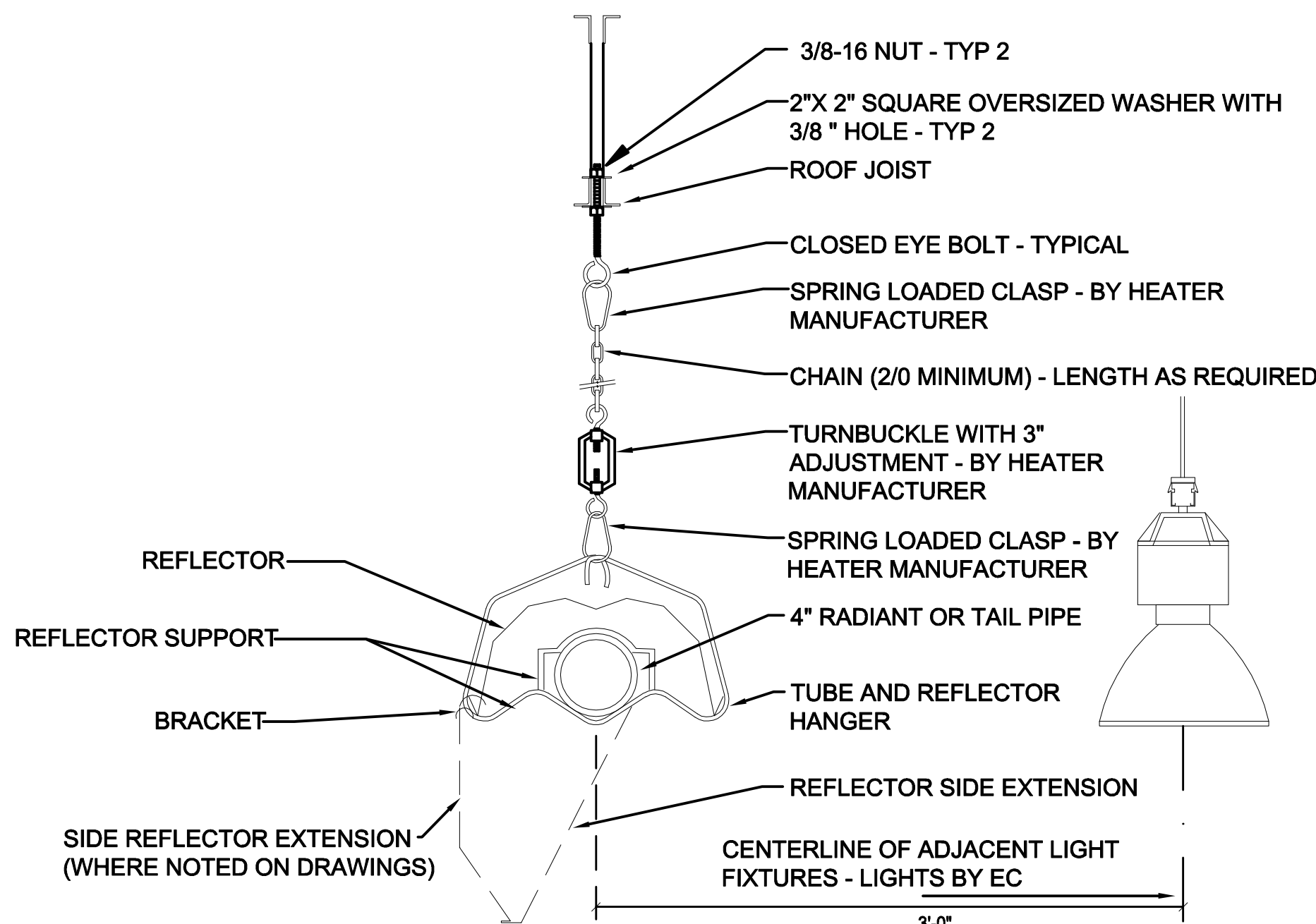


C1 RADIANT PIPE VERTICAL RUN

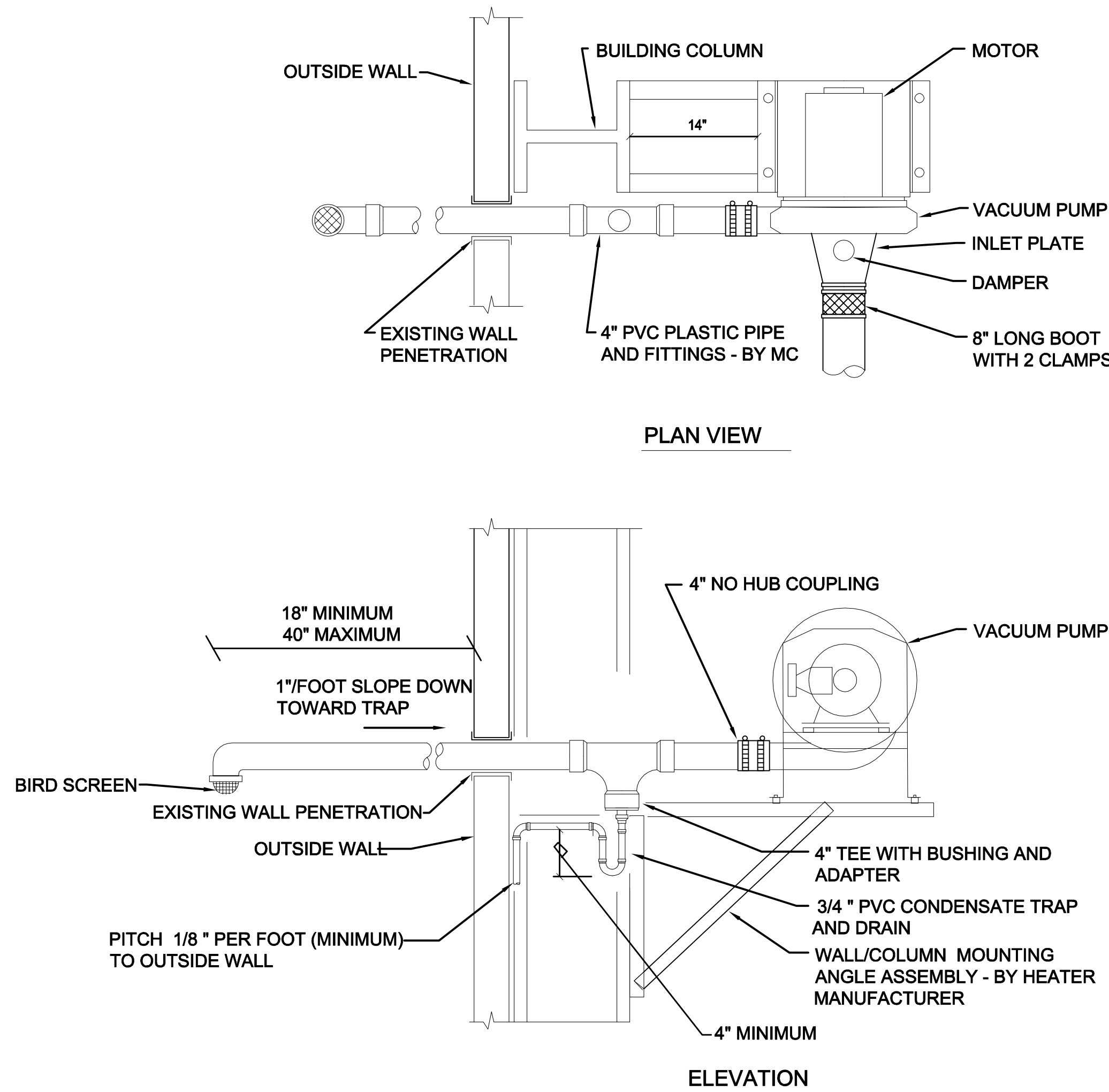
SCALE: NONE



B5 SECTION OF REFLECTOR AT RADIANT BARRIER SHIELD

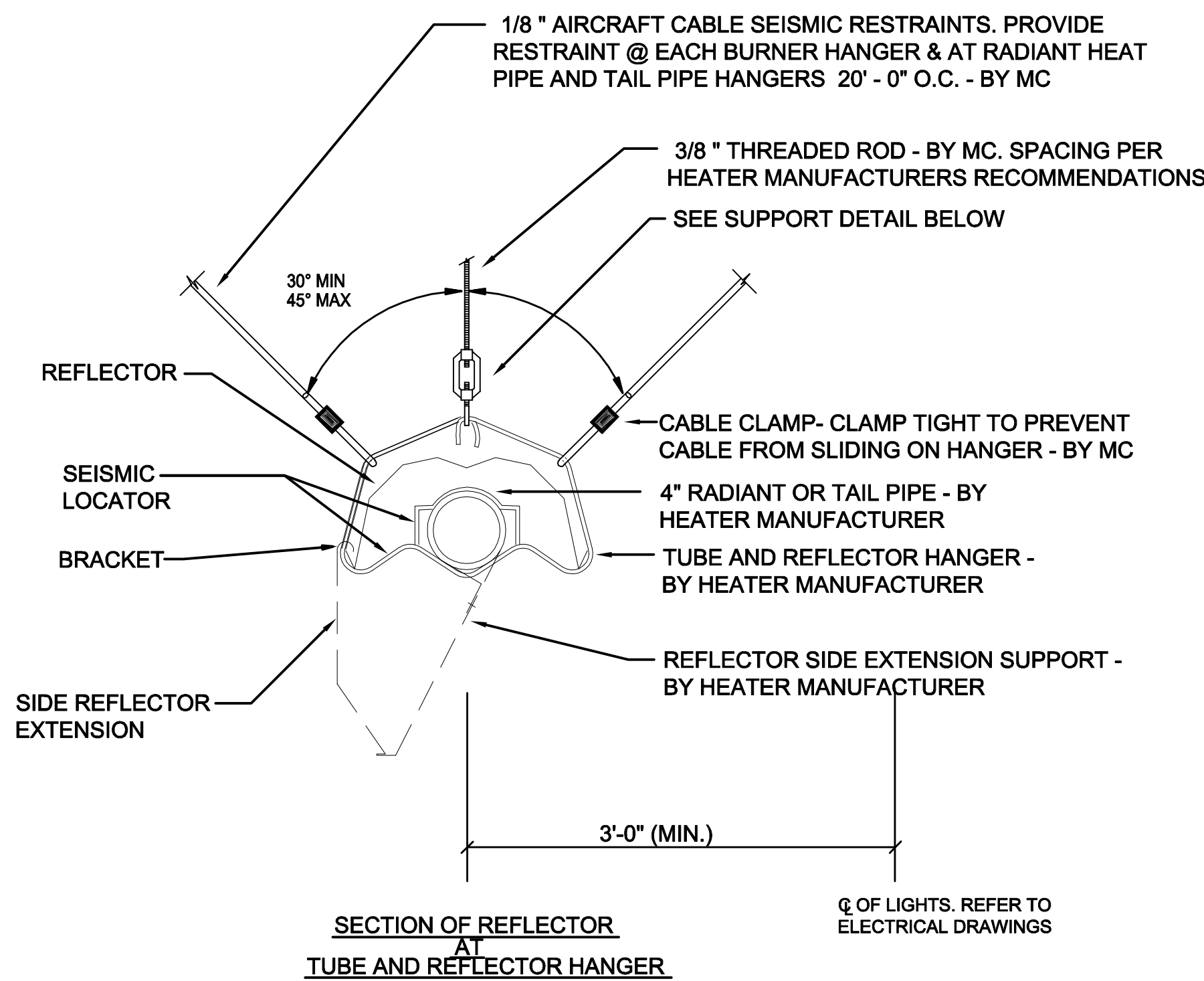


A5 SECTION OF REFLECTOR AT TUBE AND REFLECTOR HANGER



A1 VACUUM PUMP-SIDEWALL DISCHARGE

SCALE: NONE

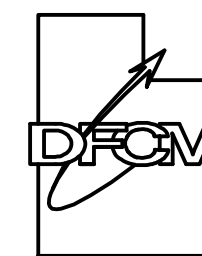


A3 RADIANT TUBE SUSPENSION DETAIL

SCALE: NONE

DETAIL NOTES:

1. PROVIDE UNISTRUT SUPPORT BETWEEN ROOF



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PROJECT NAME & ADDRESS

**UDOT
RAMPTON MTF-
RADIANT HEATING
SYSTEM
REPLACEMENT**

DFCM #08212900

SLC, 84118

MARK	DATE	REVISION

PROJECT MANAGER:

WP

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STAFF

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WHW JOB NO.:

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SHEET TITLE



MECHANICAL DETAILS

SHEET NO.

ME501

1

2

3

4

5

6

E

D

C

B

A

RADIANT HEATER SCHEDULE						
SYMBOL	BTUH BURNER	DESCRIPTION	ELECTRICAL			NOTES
			HP	V	AMPS	
<div>RH 1</div>	20,000	BURNER	-	120	0.3	ROBERTS-GORDON 2,4
<div>RH 2</div>	40,000	BURNER	-	120	0.3	ROBERTS-GORDON 2,4
<div>RH 3</div>	60,000	BURNER	-	120	0.3	ROBERTS-GORDON 2,4
<div>RH 4</div>	80,000	BURNER	-	120	0.3	ROBERTS-GORDON 2,4
<div>VP 1</div>	N/A	VACUUM PUMP	3/4	120	6.6	ROBERTS-GORDON 1,3,4
1. PROVIDE WITH CONTROL PANEL AND THERMOSTAT PER BRANCH AS SHOWN ON DRAWINGS.						
2. RADIANT PIPE SHALL BE 4" HEAT TREATED ALUMINIZED TUBING AND TAILPIPE SHALL BE 4" PORCELAIN COATED TUBING, ALUMINUM REFLECTORS , HANGERS TUBE COUPLINGS.						
3. 4" EXHAUST TERMINATION. REUSE EXISTING PENETRATIONS THROUGH STRUCTURE.						
4. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.						

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PROJECT NAME & ADDRESS

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SHEET TITLE

PROFESSIONAL ENGINEER
07/14/08
WINWARD M.
PACKER
No. 375080
STATE OF UTAH

MECHANICAL SCHEDULES

SHEET NO.
ME601